JOHN C. WARREN.

vol 2
1827

John C. Warren

THE

NEW ENGLAND JOURNAL

OF

MEDICINE AND SURGERY,

AND

THE COLLATERAL BRANCHES OF SCIENCE.

CONDUCTED BY A NUMBER OF PHYSICIANS.

> Homo naturæ minister et interpres tantum facit et intelligit, quantum de nature ordine, re vel mente, observaverit; nec amplius scit aut potest.
>
> FRANCIS BACON.

VOLUME II.

BOSTON:
PRINTED FOR THE EDITORS, BY NATHANIEL WILLIS, 76, STATE-STREET,
PUBLISHED BY BRADFORD AND READ, 58, CORNHILL.
1813.

LIBRARY OF THE HARVARD MEDICAL SCHOOL
41.

TABLE OF CONTENTS.

PAPERS.

Historical Outline of the progress of Medical Science, during the last three years - - - - - 1

Memoir on the agents of the circulation of the Blood in the arterial system - - - - - - 9

Dissertation on the functions and diseases of the Pancreas. By Thos. Sewall, M. D. - - - - - - 20

Some account of the effects of Electricity; in a letter from Parker Cleveland, Esq. Professor of Math. and Nat. Phil. in Bowdoin College - - - - - - 26

Experiments and Observations on Cutaneous Absorption. By Thos. Sewall, M. D. - - - - - - 30

Readings and Observations - - - - - - 32

Dissection of a Limb, on which the operation for Popliteal Aneurism had been performed. By Astley Cooper, Esq. F. R. S. - - - - - - - 35

Case of a Fractured Cranium, where the Dura and Pia Mater were lacerated, and a great quantity of the Cerebrum protruded. By P. T. Creagh, Esq. - 42

Extracts from a Discourse on Tic Douloureux, read before the Boston District Medical Society. By James Jackson, M. D. - - - - - - - - 105

Notice of the late James Lloyd, M. D. - - - 127

Case of Retroverted Uterus, communicated by Hector Orr, A. M. - - - - - - - 131

Memoir on Diseases of the Heart, translated from the French of Chevalier Pelletan - - - - 140

Collections of Morbid Anatomy, No. I. By J. C. Warren, M. D. - - - - - - - 153

Fatal case of Hydrophobia - - - - - 161

Successful case of Hydrophobia - - - - 163
On the vegetation of High Mountains - - - - 169
Description of a Bank for Alpine Plants, by M. Thouin 177
Readings and Observations, No. II. - - - - 180
Observations on Chronic Diarrhæa - - - - 213
Account of a Remarkable Hæmorrhagic Disposition - 221
On Phlegmasia Dolens - - - - - - 225
Observations on Puerperal Fever with Diarrhæa - - 232
Account of a disease in New-York and New-England, in 1812—13 - - - - - - 241
Cases of a Disease in the Northern States - - - 253
Poisonous Effects of using Glazed Earthen Vessels - 258
Description of certain Minerals in Massachusetts - - 261
Collections of Morbid Anatomy, No. II. - - - 265
Biographical Sketch of the late J. F. D. Jones, M. D. 269
Observations on some Diseased Eyes - - - 271
Miscellaneous Cases in Surgery, &c. - - - 278
Miscellaneous Facts and Observations - - - 317
Treatise on the Cerebellum, &c. - - - 329
On the use of the Carbonate of Iron - - - 336
On Delphinium Consolida - - - - 348
Biographical Notice of the late Dr. Rush - - 351
On the occasional bad effects of Ergot - - 353

REVIEW.

Elements of Chemical Philosophy, by Sir H. Davy, L.L.D. &c. &c. - - - - - - - - 51
An Essay on the Uterine Hæmorrhage, which precedes the delivery of the full grown fœtus. By Edward Rigby, Esq. F. L. S. &c. - - - - - 57
History of the Forest Trees of North America, considered principally with regard to their use in the Arts and their introduction into Commerce. By F. A. Michaux 70
Annual Address, delivered before the Society for the Promotion of Useful Arts, at the Capitol, in the City of

Albany. By Theodoric Romeyn Beck, one of the Counsellors of the Society, &c. To which is added, a catalogue of Minerals in Massachusetts - - 183
Chemical Researches on the Blood and some other animal fluids. By W. T. Brande, Esq. F. R. S. - - 193
Count Rumford's Experiments on Wood - - - 282
Dr. Thacher's American New Dispensatory - - 290
Practical Observations on Ectropium, &c. - - - 295
John L. Sullivan on Inland Navigation - - 356
History of the Royal Society - - - - 364
Dissertation on the Eupatorium Perfoliatum - - 377
Medico-Chirurgical Transactions - - - 379
Practical Observations on Ectropium - - - 396

INTELLIGENCE.

Sketches relative to Medicine in Italy; in a letter from a gentleman on a tour in that country. 1812 - - 76
Preparation of Opium from common Garden Lettuce 78
Report of the British National Vaccine Establishment 84
Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge - - - - 89
Case of disease in the Chest, from a leaden shot - 89
On the Embalming of Dead Bodies - - - - 90
Dr. Bateman's work on Diseases of the Skin - - 93
Engravings of Morbid Anatomy - - - - - ib.
Instance of obliteration of the Vena Cava inferior - ib.
Eruption of the Souffrier Mountain - - - - 95
Sir Humphry Davy's work on Agricultural Chemistry - 101
New Publications - - - - - - - ib.
Meteorological Journal - - - - - - 102
Philosophical Transactions of the Royal Society of London for 1812 - - - - - - - - 202
Meteoric Stone which fell in Konleghowsk - - - 203
New Comet, discovered by M. Pons, of Marseilles - ib.
Additional Cases of Morbid Anatomy - - - ib.

Bichat on the Membranes - - - - - 233
Botanical Lectures - - - - - - - 204
Medical and Philosophical Lectures in Harvard University - - - - - - - - - ib.
Dr. Thacher's Dispensatory - - - - - ib.
Recent Foreign Publications - - - - - 205
Recent American Publications - - - - - 209
Works in Press - - - - - - - ib.
Notice to Correspondents - - - - - - ib.
Meteorological Journal - - - - - - 210
Massachusetts Medical Society - - - - 305
Cure for the Stone and Gravel—New London Pharmacopæia - - - - - - - - - 307
Painful Subcutaneous Tubercle - - - - - 308
Lectures on Midwifery—Agent for the Vaccine Disease 309
Moore, the Fasting Woman - - - - - ib.
Sir H. Davy—On the formation of Pyrophorus - - 310
Death of Dr. Rush—Note to Correspondents - - 311
Recent American Publications - - - - - 312
Books proposed to be published - - - - - 313
Recent British Publications - - - - - - 314
Bill of Mortality for the town of Boston - - - 316
Medical Lectures—Medical Graduates - - 408
Plates of the Arteries—Works of Dr. Miller - - 410
Professor of the Institutes—Animal Heat - - 411
Fungus of the Testes—American Publications - 412
British Publications - - - - - - 413
Notice to Correspondents and Subscribers - - 414
Index - - - - - - 415

THE

NEW ENGLAND JOURNAL

OF

MEDICINE AND SURGERY.

Vol. II.] JANUARY, 1813. [No. I.

HISTORICAL OUTLINE

OF THE PROGRESS OF MEDICAL SCIENCE DURING THE LAST THREE YEARS.

The slow and precarious receipt of European publications in this country, and the limited circulation of such copies as are received, constitute very considerable obstacles to the early diffusion of medical information from foreign sources. To those whose thirst for knowledge is not always *speedily* gratified by a perusal of original works, it is presumed, that a brief notice of the improvements and innovations in medical science during the three last years, will not be unacceptable. Such a notice, however, must necessarily be circumscribed and partial, from the very causes which it is intended in some degree to obviate.

In the department of medical practice, no subject excites for a time more general attention than the publication of new and plausible remedies for old and intractable disorders. The Datura Stramonium, or Thorn Apple, a plant probably introduced into Europe from America, has long been known as an highly narcotic and deleterious article. It has of late risen into sudden repute in the character of a specific for asthma. The benefits said to result from smoking it, to patients labouring under disordered respiration, have been given to the public in a publication of Mr. Fisher, surgeon; and one by the editor of the Monthly Magazine. At the same time, its utility and safety have been called in question by a very intelligent writer in the Medical and Physical Journal. The result of Dr. Bree's experience, as given in our last number, is highly unfavourable to its use. But there is no doubt of the utility of some species of Thorn Apple, in some varieties of asthma, as appears from the history of its introduction. It seems that the Datura of the East-Indies, *Datura Ferox*, has been used at Madras with considerable benefit to asthmatic patients. A quantity of the dried root was brought to England, and tried there by some individuals, with evidently palliative effects. A gentleman having exhausted his stock of the oriental plant, was advised to have recourse to the common Stramonium, as a plant bearing close affinity to the Datura Ferox. This was accordingly tried and being found to afford nearly the same relief as the other, it rose rapidly into notice. But the cases of asthma which are thus susceptible of relief, and the precise kind of preparation best suited for use are undetermined. In a London paper it has been asserted, that the medicine which gave relief in asthma was prepared, not from the Datura Stramonium, but from the Datura Tatula,* and on this account a large quantity of the latter plant was cultivated by Mr. Salisbury, at his botanic garden, for medical use. We believe the properties of the two plants to be nearly similar, and there is no doubt that when administered with discretion, they have been decidedly palliative of some forms of the disease.

---

* The plant which grows most commonly in Boston and its vicinity, and which is used with us as the stramonium, appears to be the Datura tatula, as described by Miller, Willdenow and others. It has a purple stalk, spotted with small light dots, and likewise blue or purplish flowers. In these respects, and some others, it differs from the representations of D. Stramonium, given by Woodville and Sowerby. The other characteristics usually given, are not sufficient to distinguish the two species. It is possible they are not distinct species, but only varieties. The stramonium, having a green stalk and white flowers, grows in this vicinity, but is more unfrequent. The purple plant is smoked here with occasional advantage.

Those who contemplate with satisfaction the introduction of solace for the asthmatic, will not be indifferent to a reputed *Remedy for the Gout*. The *Eau medicinale*, a secret medicine of French origin, has met with extensive reputation and rapid sale in Great Britain. A publication of Dr. Jones, recommends this medicine, while on the contrary, many of the journalists exhibit incredulity with regard to its virtues. Mr. Moore has imitated the Eau medicinale by a composition of White Hellebore and Opium, which in its effects corresponds very well with the specific. The medicine and the active plant used in the substitute, are still very proper subjects of experimental inquiry. Repeated notice has been made of these in the first volume of this work.

The *Scarlatina* in its various forms, has, within a few centuries been a frequent disease, and at times assumed the character of a most destructive epidemic. From the time that it ravaged Spain in its most malignant character under the name of *Garotillo*, until the period of its prevalence in England, as the "putrid sore throat," about 1750; the antiphlogistic and depletive treatment proved highly detrimental to subjects of the disease. A change in the general plan of cure took place with the publication of Dr. Fothergill, since which time the stimulant practice has predominated among practitioners. Of late, however, instances of the putrid and malignant form have been more unfrequent, at least in England and America; and from the face of the journals, it appears that the scarlet fever of the last years has suffered from the stimulant plan, where it has been tried; while from depletion, cold affusion, and the antiphlogistic treatment, the happiest effects have ensued.

Vaccination has been progressing with rapid and firm advances. Every year contributes to its dissemination and introduction into new vicinities. Multiplied proofs of the immunity it affords from variolous infection, are continually presented to the public. The reports of the National Vaccine

Establishment in London, made to the house of commons in March, 1811 and 1812, state that no failure in any of its stations had occurred in any case of vaccination. In France every method of encouragement has been given by the government, and the heir apparent to the crown was vaccinated at an early age. In the island of Ceylon, a place much infested formerly with small pox, the number of people vaccinated in 1809 was more than twenty five thousand. The populous cities of Vienna and Milan, which formerly suffered greater mortality from the small pox than London, in proportion to their population; have been for some time freed from this destructive pest; the former for five, and the latter for eight years past.

From the last report of the British National Vaccine Establishment, it appears that in those few anomalous cases which come to their knowledge of the small pox occurring after vaccination, it generally proved a very mild disease; and out of many hundred thousand persons vaccinated, not a single well authenticated instance has been communicated to them, of the occurrence of a fatal small pox after vaccination.

As an improvement in medicine, the introduction of the oil of turpentine as a remedy in *tænia*, should not pass unnoticed. The safe exhibition of this powerful article in the large dose of two ounces, and its frequent efficacy in removing a troublesome enemy from the human frame, have been amply attested in the papers of several societies, and in corroborative facts detailed by the various journals.

No disease ever constituted a more decided opprobrium of medicine than *spina bifida*. The discovery of the spinal tumour upon an infant, has been paramount to the seal of death on the unfortunate subject. It was reserved for Messrs. Abernetty and Cooper, to propose and execute a plan of treatment for the disease, which produces relief and safety, and even a radical cure. Several children have already been saved by the method of *puncture* and *pressure*. As the multiplication of experience shall extend to the means of preservation, the disease of spina bifida, from being a reproach, may become a subject of one of the proudest trophies of medical science.

A physician of Montpellier, Dr. Chrestien, has been known to the public, by a book published some years since, under the title of *La Methode Iatraleptique.* In this work the remarkable effects of various medical agents applied to the surface of the body, are set forth with no small degree of ostentation. A second edition has appeared at Paris, which is rendered noticable by the introduction of a new remedy for the venereal disease. The preparations of gold, mentioned in our third number of last year, which have been applied by Chrestien to the removal of Syphilis, may tend to produce a very important innovation in that department of practice. If any faith is to be reposed in the positive and circumstantial detail of a great number of cases, we must believe that in the hands of the French physician, gold has proved equal, and even superior to mercury and other common agents, in the cure of gonorrhea and syphilis with all their sequelæ. In strumous and carcinomatous affections, and even in phthisis, the author relates decided instances of its success. But we think the very number and magnitude of these cases carries a kind of incredibility at first sight, which is sufficient to deter the cautious part of the faculty, from a ready or implicit assent to the virtues of the medicine. Our most powerful remedies are often subject to be baffled by the extent and inveteracy of disease. We are accustomed to give more willing credit to a writer, who fairly states his failures with his success, than to one whose book is filled with unconditional and sweeping assertions of infallibility.

Some physiological researches of Mr. Brodie, inserted at length in the first number of this journal, go to prove the important fact, that the action of the heart does not depend immediately upon the influence of the brain, but upon respiration, which in turn, *is* dependent on the brain. The farther experiments of this gentleman, shew, that certain vegetable poisons such as the essential oil of almonds, the juice of aconite, the empyreumatic oil of tobacco, and the woorara, act by simply destroying the functions of the brain, so that respiration is suspended, and with it the circulation. A valuable medical fact is thus brought to light, viz. that if artificial respiration be kept up, the circulation may be continued without the brain; and that in some instances of apparent death, by poisons acting on the brain, life may be preserved, by keeping up the circulation by means of artificial respiration, until the suspended functions of the brain return. A discovery which may prove of such consequence to mankind, justifies the infliction of pain and death upon animals, which the experiments necessarily occasioned.

Mr. Brodie, in some subsequent researches, read to the Royal Society, has investigated the mode in which certain *mineral* poisons act on the animal system. His conclusions are—1. That arsenic, emetic tartar, and the muriate of barytes, do not produce their deleterious effects until they have passed into the circulation. 2. All these poisons occasion disorder of the functions of the heart, brain and alimentary canal; but they do not affect all these organs in the same relative degree. 3. Arsenic operates on the alimentary canal, in a greater degree than either the emetic tartar or the muriate of barytes. The heart is affected more by arsenic than by the emetic tartar, and more by this than by the muriate of barytes. 4. The corrosive sublimate, when taken internally in large quantities occasions death, by acting chemically on the mucous membrane of the stomach, so as to destroy its texture; the organs more immediately necessary to life, being affected in consequence of their sympathy with the stomach.

In making the comparison between them, we observe that the effects of mineral are less simple than those of the generality of vegetable poisons; and when once an animal is affected by the former, there is much less chance of his recovery, than when he is affected by the latter.

The changes produced in atmospheric air by its contribution to vegetable and animal existence, have formed a subject of considerable interest and research. Several years since, Mr. Ellis of Edinburg, published an Inquiry into these changes, as produced by the germination of seeds, the vegetation of plants, and the respiration of animals. From a series of experiments detailed in a candid and perspicuous manner, he endeavoured to prove, that the oxygen which is known to be necessary to germination, acts only by uniting with carbon, which is discharged from the seed, thus forming carbonic acid. In like manner, the vegetation of plants, which was believed by Priestley to increase the oxygenous portion of the atmosphere, is thought by Mr. Ellis to diminish the oxygen, and to substitute carbonic acid in its stead. In animal respiration, he discards the opinion of oxygen being added to the blood,* and contends that it only acts by combining with carbon, which during respiration is evolved from the lungs.

In a recent work, containing further inquiries on the same subjects, Mr. Ellis seems to arrive at the conclusion, that vegetables act differently while exposed to the rays of the sun, and while covered by the shade. In the former instance they absorb carbonic acid, and in the latter they emit it.

---

* His principal arguments are, that neither the air nor its oxygen is *absorbed* by the lymphatic vessels of the lungs, since, if it were, it would follow the course of those vessels to the right side of the heart; and secondly it is not taken up by chemical *affinity*, for all chemical action between two bodies requires them to be in contact, which is not the case between the air in the bronchiæ, or air cells, and the blood in the pulmonary vessels. He denies the existence of pores, which may furnish a communication, as unsupported by anatomical fact, and likewise contradicted by an experiment, in which air forced down the trachea of a dog, could not be made to enter the pulmonary vessels. Even if the air could gain access to the blood, he asserts, as the result of numerous experiments, that its presence in the vessels, would be unavoidably fatal. He farther observes, that air in order to get to the blood must permeate two membranes, one belonging to the air cells, the other to the blood vessels; that air penetrates with slowness and difficulty through the membranes of dead subjects, while those of the living subject are still more impervious, as exemplified in the instance of the gall bladder, which retains its fluid during life, but suffers it to transude after death. He accounts for the diminution of bulk in the inspired air, by the formation of carbonic acid, a compound occupying less *space* than the oxygen, which disappears in respiration, though it exceeds it in *weight*. Many other arguments are exhibited, equally ingenious, but too extensive for a note.

The disease of cynanche trachealis, or croup, has been a prominent subject of medical attention, from the dreadful rapidity of its course, and the rank and distinguished character of some of its victims. It will be recollected that in the year 1807, the French Government offered a prize of twelve thousand franks, to the author of the best memoir or dissertation on the subject of this disease. Of the fruits of this princely reward, we have only learnt that six memoirs are considered worthy of distinguished notice. Between two of these, as being of equal merit, the prize was divided; three others were distinguished as highly honorable to their authors; but of the contents of all these we are yet in ignorance. A sixth dissertation was marked by the proposal of a remedy considered by the writer to be specific in croup and in hooping cough. It is stated to be the *liver of sulphur alcalized*, a sulphuret of potash recently prepared and browned. When exhibited it is to be mixed with honey or sugar. The dose from the attack of croup to the decided diminution of the disorder, is ten grains morning and evening, to be diminished as the disorder abates, and towards the close, the morning dose only to be given. It is said to give relief *in two days*, but must be continued longer for fear of a relapse.

We have had no experience with this remedy in the croup of this country, but it is feared that a medicine of so little general activity, exhibited only twice in twenty-four hours, must be wholly inadequate to control a disease, which frequently proves mortal in half the time required for its effect. If employed to the exclusion of blood letting and other efficacious means, it is feared its use will be regretted.

Some valuable and instructive observations on croup, have been published by Dr. Hosack of New York, and by Dr. Adams of London, the former in a pamphlet, and in the Medical Register; the latter in the London Medical and Physical Journal.

[*To be continued.*]

MEMOIR

ON THE AGENTS OF THE CIRCULATION OF THE BLOOD, IN THE ARTERIAL SYSTEM.

THE circulation of the blood has been commonly attributed to the contractions of the heart, aided by contractions of the arteries. Although this doctrine has been generally received, there have been physiologists, who doubted of the action of the arteries, and of course attributed the circulation almost wholly to the muscular contractions of the heart. Opinions of this nature have been advanced by the celebrated BICHAT with so much zeal, and supported by such strong facts, as to shake the accredited doctrine to its foundation. On the other hand, SOEMMERRING, the veteran chief of living anatomists, supports it with arguments, which appear irresistible. It must be confessed that there are on both sides difficulties of magnitude ; but we must examine the facts adduced by each party, and yield our opinions to the best established and most powerful.

FACTS IN SUPPORT OF THE OPINION THAT THE ARTERIES POSSESS IRRITABILITY, OR A VITAL POWER, BY WHICH THEY ARE CAPABLE OF PROPELLING THE BLOOD.

I. The arteries contract in living animals, when they are stimulated by a sharp instrument, or oil of vitriol, or nitrous acid, or the electric spark.

II. The arteries have been seen agitated by a peristaltic motion.

III. For the most part the contractions of any portion of stimulated artery continue without remission, as well as in the intestines or urinary bladder. Sometimes, however, during life, although more especially at death, they cease, so that the artery may recover a regular form.

IV. An artery wounded, or fairly dissected in the living body, is sometimes so much contracted within a few minutes, that its orifice is entirely closed. This contraction is stronger therefore than that which takes place after death.

v. The arteries sometimes beat in a very different manner, in different parts of the body.

vi. In the arteries of a paralytic arm, the pulse is often imperceptible, while in the other arm it is full and strong; but if the pulse were produced by the power of the heart alone, it is impossible that it should not be continued in the paralytic, as well as in the sound limb.

vii. Irritating substances applied externally, for example, powder of cantharides, sinapisms, and other things of that kind produce inflammation; when the eye is irritated externally, or from the brain, tears are formed; saliva is secreted on the application of stimulating medicines, or on the sight of food.

viii. Their nerves also, which are so remarkable and numerous, that by them the arteries may easily be dependant on the brain, seem to exhibit some energy, yet they are too minute to admit of the application of a stimulus. So that the arteries cannot readily be excited to contractions by irritation applied to their nerves, as may actually be done by irritating the nerves of muscles.

ix. The motion of the blood is continued, although the heart may be in part changed into the most solid bone.

x. The arteries, below an aneurism, are emptied without the aid of the heart: and the motion of the blood below an aneurism is accelerated anew.

xi. Opium seems to destroy the power of the arteries.

xii. While from the best observations, it appears that the arteries may be contracted within their middle diameter by the vital power, this cannot be effected by their dead elastic force.

xiii. In the arteries of the dying, sometimes the pulse and heat cease, while the head still lives.

Soemmerring seems to attribute the vacuity of the arteries, after death, to their elastic property, principally. For, says he, when the heart is no longer able to move the blood in the arteries, this elastic power suffices to propel the blood into the veins. But if the elastic power is lost together with the life, as when an artery is changed into bone, the artery is seen full of blood after death. In subjects dead of epilepsy or hydrophobia, blood is found in the arteries only, because, as it seems, when from the spasm of the smaller veins, the blood cannot pass into the venous system, it remains in the arteries. The same thing happens in the arteries of the head of strangled and apoplectic persons.

OBJECTIONS TO THE OPINION THAT THE ARTERIES TAKE AN ACTIVE PART IN THE CIRCULATION OF THE BLOOD.

Before stating these objections, we shall present a slight view of the properties of the arteries, such as they appear from the experiments of Bichât.

The coats of the arteries, or the arterial texture, possesses little *extensibility* in a transverse direction, but this property is sufficiently marked in the longitudinal direction.

As to their *contractility of texture*, that in the transverse direction, is very important and conspicuous. To this we must attribute the return of an artery on itself, as soon as it ceases to be distended with blood; also the contraction of the umbilical artery and the arterial canal after birth; the obliteration of the artery, below a ligature as far as the first collateral branch; the fullness and smallness of the pulse.—This property has been usually confounded with irritability; but it is only necessary to observe, that in these cases no stimulant is required; for the contraction takes place merely from the cessation of the extension.

The contraction of texture in the longitudinal direction is observed, when, an artery being divided between two ligatures, the ends retract; it is observed in amputation, and also whenever an artery has been forcibly drawn out, for by this property it is retracted.

The *sensibility* of the arteries externally is very slight, if they are fairly separated from other parts. The ligature of an artery under such circumstances, is attended with little, and often no pain. The *internal* membrane is sensible to the contact of irritating fluids. An injection of port wine or ink, into the cavity of the carotid artery, produces a cry of pain and violent agitation.

Animal contractility, or that power of contraction dependant on, and connected with the brain, is totally deficient in the arteries. All the irritations that can be applied to the brain or nerves, fail in producing any action or contraction in the arteries; even the galvanic stimulus, which acts so decidedly on the voluntary and involuntary muscles, fails of exciting any movement in these vessels.

The sensible organic contractility, which corresponds to what is commonly called *irritability*, is manifestly deficient in the arterial system. In whatever way we irritate the artery of a living animal, it constantly remains immoveable. 1. If we stimulate its external surface with a scalpel, or any other instrument, it is easy to make this remark. 2. The same observation may be made on irritating the internal surface. 3. An artery cut longitudinally in a living animal, does not turn over its edges, as the intestines do. 4. When extracted from the body, never does an artery exhibit the least mark of contractility, as is done by the heart, intestines, &c. 5. If we remove the arterial coats, layer by layer, in a living animal, or one recently killed, we perceive no trace of that trembling, that palpitation, which the fibres of the organic muscles present under simular circumstances. On the contrary, we remark a kind of inertia, analogous to that of the tendinous, or aponeurotic fibres, &c, 6. It is said that by placing the finger in an artery, a contraction is felt. The contraction is infinitely less than has been said; besides, it is evidently the effect of the contractility of texture. 7. Lamure said that, having intercepted blood in an artery, between two ligatures, the parietes of the vessel continued to contract, although deprived of the influence of the heart. This fact is incorrectly stated; I have repeated it at least ten times on the carotid, and it has always presented the following result. The tube compressed between the two ligatures and filled with blood, is indeed agitated with a real motion; but it is a common locomotion, which it participates with the whole artery, and which depends on the shock of the blood against the ligature, which corresponds with the heart. To be convinced of this, it is only necessary to lay bare the artery for some extent, we then see evidently that the whole, both the portion in the ligature and that distant from the heart, are agitated by a common motion. 8. Many authors have obtained a contraction of the arteries, by stimulating them with acids. This is not an effect of the vital power, it is a mere hardening, or *racornissement.*

We cannot doubt from all this, that the arteries are destitute of vital contraction. All that has been attributed to this cause, is a manifest effect of the contractility of texture. Thus when an artery is opened between two ligatures, it empties itself of its contents. It is so certain, that such phenomena are the effects of the contractility of texture, that they take place in the dead body, even till the artery begins to putrefy. Fill any portion of the arterial system; open one of its tubes: it immediately empties itself by contracting. The contraction produced by the defect of extension, is that which characterises the contractility of this texture.—Irritability, or sensible organic contractility, on the contrary, always supposes the application of a stimulus.

The red or arterial blood is moved through the heart by a mechanism, respecting which there is no difficulty. But an important question is, to decide respecting its motion in the arteries. Are these vessels active or passive in this motion? When the physician examines the different states of the pulse, is it the condition of the heart, or that of the arterial system, that he is informed of?—Considering the absence of the sensible organic contractility, which we have observed in the arterial texture, it is evident, that the part it takes in this function, must be specially passive; that the motion, of which it is the seat, is communicated to it; that the heart is the great agent of the beating of the arteries; that this organ gives the impulse, which the vessels merely obey; and that of course, in almost all cases, the state of the pulse is the index of the condition of the vital powers of the heart, and not of the state of the arterial system. The life of the latter is not more elevated in the greatest and most frequent pulsatory motions, than in the most feeble and slow. Thus, in convulsions, of which the origin is a wound, an irritation of the brain, &c.; the nerves although conductors are, in some sort, passive.

We must now examine in detail this question, which many physicians have considered in so different a light.

1. The first reason for believing that the heart is almost every thing, and that the arteries are specially passive in the motion of the red blood, is the comparison of the vital powers of these two organs, the astonishing activity of the organic contractility of the heart, and the absence of this property in the arteries. In order that an organ should move, it must have the principle of motion in itself; that is, it must possess one of the two sensible, vital contractilities, the animal or the organic:* for we know of no other vital powers in the animal organs, and it is not to be supposed, that nature has created one specially for the arteries. Now the heart dilates of itself, when it is empty, as is seen on tearing it from the breast of a living animal and afterwards evacuating the fluid it contains; because it has in itself the cause of its dilation. But in no case have I seen the arteries thus subjected to an alternate motion, when they are empty. They are constantly found contracted on themselves.

2. If the arteries produce the pulse by their vital contraction, there ought to be an irregularity of the pulsations below an aneurismal tumour, because the arterial texture being disor-

---

* Note. See Bichât on Life and Death. For the convenience of those who have not this work at hand, his table of the properties of living bodies is subjoined:

	Classes.	*Genera.*	*Species.*	*Varieties.*
Properties.	I. Of Life.	I. Sensibility.	I. Animal.	
			II. Organic.	
		II. Contractility.	I. Animal.	
			II. Organic.	I. Sensible.
				II. Insensible.
	II. Of Texture.	I. Extensibility.		
		II. Contractility.		

ganized, should in part lose its contractility. But we observe precisely the contrary. On the other side every organic disease of the *heart* inevitably disturbs the pulse. If there is an increase of the fleshy fibres, as in aneurisms, when the left ventricle is thickened, it becomes strong: it is irregular, if obstructions exist in the mitral or aortic valves. In the aged, if the arteries alone are ossified, the circulation is not disturbed; but if the structure of the origin of the aorta, or of the heart, is impaired, the circulation is irregular. An artery might be converted into a bony canal, and yet the circulation through it go on as usual, with the exception of the pulsation. What has been said of chronic affectiens of the heart, may be applied to those which are acute. When syncope arrests its motions, it stops the pulse. Certain passions, as anger, fear, &c. seem to be stimulant to it; they also hurry the arterial circulation. Every inflammation of the pericardium alters the pulse. This membrane often adheres to the heart, in consequence of inflammation, and at the same time, the pleura adheres to it on each side; so that one would say, that the heart and lungs form but one substance. I have seen four instances of this pathological state in which the motions of the heart must have been materially impeded. In all these, the pulse was found to be small, irregular and intermittent. The more bodies I examine, the more am I convinced, that when an irregularity of the pulse exists for some time, there must be an organic disease of the heart. From this we have a right to believe, that the irregularities of the pulse, which are acute, if we may so speak, depend on a change, not in the texture, but the vital powers of the organ, and that the arteries have nothing to do with it. We know how very frequent these changes are in acute diseases. Since therefore every alteration in the heart essentially disturbs the pulse, and on the contrary, those of the arteries do not derange it, certainly we ought to conclude, that the one is essentially active in this great phenomenon, and that the others are, on the contrary, almost passive.

3. There is no doubt that the instant a ligature prevents an artery from receiving the impulse of the heart, it ceases to beat.

All the phenomena of aneurisms treated by ligature or compression, establish this fact. If the contrary has been sometimes observed, it depends solely on the anastomoses, as will be shown; and in such cases it is equally the heart, which causes the artery to beat above and below the ligature. It is absolutely false, that an artery ever beats between two ligatures. In aneurism, when the artery is compressed below the tumour, the latter often beats more strongly than before.

4. Cut off an arm from a dead body and render it pliant, by leaving it for some time in a warm bath. Afterwards adapt a small tube to the brachial artery; place the other extremity of this tube in the open carotid of a large living dog. Immediately the heart of the animal will drive the blood into the artery of the dead arm. The artery will begin to pulsate, less strongly indeed than in the natural state, but sufficiently to be perceived, even through the integuments. I have often repeated this curious and singular experiment, of which I shall have occasion to speak again. It was suggested to me by another, in which I caused the arterial blood to circulate in the veins, without the movement of locomotion, it is true, but with a brushing or friction, very sensible to the finger, and a quickness, almost equal to that of the arteries. This last experiment alone would prove that the heart is almost the only agent of impulsion of the blood, circulating in the arteries. In fact, every jet of blood coming from the veins is uniform, because the capillary system pours its blood into these vessels without any sudden shock. On the contrary, every arterial jet is *per saltum*, or by spurts, which are produced by the contractions of the heart. But if you open a vein, in which you have caused arterial blood to flow by means of a curved tube, it will also be discharged by jets, which will correspond with the contractions of the heart. Except the difference of locomotion, a vein presents, in the circulation of red blood, nearly the same phenomena as an artery. Make the inverse experiment, that is, adapt the curved tube to a vein and an artery, in such manner that the blood of the first shall flow in the second; the latter will immediately lose its pulsatory motion, unless it be kept up by collateral branches; which

cannot happen if we select large trunks, such as the crural artery and its corresponding vein. It is evident that all these experiments, which I have frequently repeated, ought to present opposite results, if the arteries took an active part in the circulation by their vital properties.

5. The force of the heart causes the blood to circulate for a considerable space through inert tubes, adapted to the arteries. If we cut an inch from the carotid artery, and substitute a tube fixed in the two open ends of this artery, the blood will pass through the tube and cause the artery above to beat as usual.

6. Take two dogs, and fit the end of a tube to the carotid of one, on the side of the heart, and to the crural or carotid of the other, on the side opposed to the heart; the heart of the first will constantly produce a pulsation in the arteries of the second, by throwing the blood into it. All my experiments on death, already before the world, presented this phenomenon. Besides, in aneurism, there is a pulsation below the tumour; and yet the two ends of the ruptured artery are separated at the tumour, the cellular membrane alone serving to unite them, and forming the aneurismal sac. The blood then passes through an intermediary body which is not arterial.

7. Fit a tube to an artery and let there be at the other end of the tube a small bag of skin or oiled silk, and the blood will immediately fill it; then at each contraction of the heart, it will present a kind of pulsation. It is thus that an aneurismal tumour beats, though composed of cellular membrane. Whatever might be the organ forming the cyst, it would beat in the same way, provided it received from the blood the impulse of the heart.

I ask, whether the active dilatation of the arteries would be sufficient to raise the brain, to produce a motion of the leg when crossed over that of the opposite side, to overcome the weight of tumours situated in their course, and which are raised at every pulsation? It is evident these phenomena must be produced by a more powerful organ; this organ is the heart.

8. How can the pulsation of all the arteries of the body be simultaneous, unless a single central organ produce this pulsa-

tion? The whole arterial system, suddenly impressed with the same motion, is raised and beats at the same time. Is it not evident, that if the arteries contracted of themselves, the least derangement in a part, the slightest pressure, &c. would occasion a discordance in their motions?

9. No animal has arterial pulsations unless it has a heart, or a fleshy vessel, knotted and divided with intersections, as is the case in many insects. The system of the vena portæ, never exhibits any pulsation, although its hepatic half is disposed like the arteries.

From what has been said above, it seems to result pretty evidently, that the heart is almost the sole agent in producing that motion of the blood which causes pulsation in the arteries; that these vessels are, in some sense, passive; that they obey the movement communicated to them, but have none of their own, dependant on their vital power. Therefore nature has chosen for the arteries, one of those textures of the animal economy, which has the least life; in the same proportion, that the heart is remarkable for the importance of its vital powers, the arteries are conspicuous for their deficiency. We must class them with the cartilaginous, fibrous, and fibro cartilaginous textures. Nature has rendered the arteries thus inanimate, in order that they should not disturb the unity of impulsion of the blood by their motions. Suppose that they possessed the same vital powers as the intestines, what would become of life? The least convulsive contraction, a little too violent in the aorta, or the large trunks by narrowing their caliber, would produce the most fatal effects from their opposition to the motions of the heart. In the intestinal tube, this causes nothing but vomiting. It would suddenly produce death in the arterial system. The more attentively we examine, the more we shall be convinced of the necessity of their being but a single agent of impulsion for the arterial system, and that this system from its inertness should be unable to oppose the passage of the fluid.

I do not say that the arteries are in no case able to contract from the vital influence. The skin, which is not irritable, contracts from cold. But these cases must be infinitely rare.

When they exist, they cause an inequality of pulsation on both sides, which is rarely observed in diseases.

We have now stated the opinions of Bichât, respecting the part, which the arteries take in the circulation of the blood. The grounds on which these opinions rest, have been too slightly exposed to convey a just idea of their strength and importance; but the limits assigned to a memoir of this nature, preclude the possibility of our entering farther into this subject. Nothing remains but to explain the manner in which is obviated a very important objection to the doctrine maintained above, viz. that which rests on the local increase of action in the small vessels, without a correspondent change in the motions of the heart and general arterial system; such an increase of action as occurs in blushing, in all topical inflammations, &c. The truth is, that the arteries of the capillary system of vessels are, by Bichât, supposed to be entirely beyond the influence of the heart, and to depend solely on their vital powers. In the large arteries, in their trunks and even in their branches, the heart is nearly the sole agent of the circulation. In the very small branches, in part this organ, and in part the vital action of the arteries concur in producing the phenomenon Lastly, the vital vascular action exists alone in the capillary system. In these small vessels, the shock impressed by the heart is lost; while the filaments of blood in them, are so small as to require only a kind of oscillation, or insensible vibration, to move them along into the veins. The capillaries are in a great measure beyond the influence of the heart, and they are within the influence of the nerves. They must be considered as irritable organs, and hence their power of being excited by stimuli to those actions, which produce local inflamations, blushing, &c.

EXTRACT

OF AN INAUGURAL DISSERTATION ON THE FUNCTIONS AND DISEASES OF THE PANCREAS.

BY THOMAS SEWALL, M. D.

The diseases of the Pancreas are few. Schirrus, and inflammation with its terminations in abscess and ulceration, are nearly the only diseases with which it has been found affected. The former is much the most common, and more particularly the object of this essay.

The Pancreas, like all other glandular parts, when it assumes the schirrous state, looses entirely its natural structure, and is converted into a hard, uniform white or brown mass, intersected by membranous septa. It is, however, not very uncommon to meet with this organ considerably enlarged and approaching to a state of induration, without any sensible derangement in its organization. This seems, however, the commencement only of a process by which it looses entirely its natural structure, and becomes truly schirrous.

The following cases contain an account of the symptoms which accompany an enlarged and schirrous affection of this organ with the appearances on examination after death. The two first are taken in substance from Morgagni, his third book on diseases of the belly.

The first is that of a noble matron of Padua, who from her very birth was troubled with an almost constant vomiting, which returned regularly every morning, and two hours after dinner. When she made any exertion to suppress the vomiting at its usual time of accession, great uneasiness was produced in the stomach, which continued till the offending matter was dislodged. The bowels were generally costive and could only be kept free by the use of purgative medicine. This with moderate bleeding were the only remedies employed in the course of her life.

On dissection, the body was emaciated and without any œdematous tumour. The abdomen contained a considerable quantity of water. The omentum was destitute of fat, and the stomach and intestines much contracted. The pancreas was the only one of the abdominal viscera which exhibited any marks of disease. This though of its ordinary size, was hard and white, with a complete change in its structure, consisting of a large number of distinct lobules quite destitute of moisture.

The second case is that of a man, otherwise robust and healthy, who without any evident preceding cause, was troubled with a continual endeavour to vomit, by which every thing was discharged from the stomach soon after it was taken down. He was also affected with a constant and severe pain in the region of the stomach.

On opening the abdomen after death, all the viscera appeared in a healthy state, except the pancreas; this was considerably enlarged, and almost of a cartilaginous hardness. Its surface was universally irregular, from tubercles of a considerable size, over its whole extent. These, I believe, are the only cases of an original affection of the pancreas mentioned by Morgagni, and but little is to be met with in any other author, immediately relative to this subject.

The two following cases, having recently occurred under my own observation, are related particularly with a view to their symptoms and appearances on dissection.

Mr. S. S. a young man of slender constitution, of studious and sedentary habits, a few years before his death was seized with an obtuse pain, deep seated and fixed in the region of the epigastrium; with an incurvation of the body forward and an inability to sit or stand erect without greatly increasing its severity. In a few months these symptoms were accompanied with dyspepsia, great acidity of the stomach, and an occasional vomiting. His appetite was generally good, but nothing could be retained long enough by the stomach to undergo digestion except milk, which constituted the greatest part of his diet ever after the attack, till his decease.

The remedies resorted to in the course of the disease were emetics, cathartics and blistering over the region of the stomach. The latter was generally accompanied with greater relief than was experienced from the application of any other remedy, but this was only temporary. These symptoms, (pain, acidity of the stomach, and vomiting) continued more or less severe, till a few months before his death, when a pulmonary consumption came on, that terminated fatally.

The day after his death the thoracic and abdominal viscera, underwent a careful inspection. The general appearance of the body was that of great emaciation without any œdematous affection.

On opening the thorax it was found to contain a small quantity of water, the lungs adhering to the pleura, for nearly their whole extent of surface, hard and unyielding, and in many places ulcerated and affected with tubercles. On laying open the abdomen, it was found to contain about three quarts of water. The omentum was destitute of fat, and the stomach and intestines greatly contracted. The liver, spleen and urinary organs all exhibited an healthy appearance. The pancreas was the only one of the abdominal viscera, in which there was any mark of disease. This was enlarged to about twice its natural size, and schirrous, particularly its right extremity, which embraced the duodenum, and pressed so firmly on the pylorus, that its orifice would scarcely admit of the introduction of a common sized catheter.

The second case which came under my notice, was that of Mr. B. S. a young man, aged twenty-seven, who had been confined most of his life to a sedentary employment, which gave him but little opportunity for the enjoyment of active exercise or good air. About one year before his death he was affected with a tumefaction of the parotid and submaxillary glands, also of some of the lymphatic glands of the neck. This suddenly subsided, and soon after a considerable tumour made its appearance in the epigastrium, accompanied with severe deep seated pain and an almost constant vomiting. There was, as in the preceding case, an incurved position of the body, and inability to sit, or stand erect, without greatly increasing the severity of the pain. Nothing could be retained by the stomach but liquid food, and that only when taken in small quantities and at short intervals. The bowels were usually costive and could only be kept free by the use of cathartics and enemas. These, with blistering over the stomach, opium and lime water, were the most effectual remedies in alleviating these distressing symptoms. But their effect was only palliative; great emaciation and debility ensued, which finally terminated in death.

On dissection, the thoracic niscera were carefully examined, and exhibited not the smallest vestige of disease.

On laying open the abdomen it was found to contain a small quantity of water. The omentum was destitute of fat, and the stomach and intestines contracted to half their original size. In the liver, spleen, and kidneys there was no remarkable deviation from their ordinary healthy appearance. On examining the pancreas, it was found enlarged and nearly three times its natural size, with its left extremity extending into the left lumbar region, and its right, pressing firmly on the duodenum and small extremity of the stomach, and thereby nearly obliterating its pyloric orifice. Its surface was universally irregular, hard and unyielding, and in many places exhibited in its appearance the schirrous structure.

From the foregoing cases, pain in the epigastrium, vomiting and acidity of the stomach, appear to constitute the most remarkable indications of an enlarged and schirrous affection of the pancreas.

The pain is generally one of the earliest and most distressing symptoms of the disease. It is usually of a heavy obtuse kind, deep seated and without any considerable change in its situation. This was remarkably true in the above cases; it is also spoken of by Riverius and some other authors, as a principal symptom of the disease.*

---

* Pain. To what cause this should be attributed is not certain. Probably to increased vascular action. It is a fact generally admitted, that the blood vessels of an inflamed part become, by the force of their own

Vomiting is another symptom which strongly indicates an affection of the pancreas. This was a leading feature of the disease in each of the above cases, it is also mentioned by Morgagni and Bonnetus, as constituting the principal indication of an affection of the pancreas in all those cases, which they examined after death.

Great acidity of the stomach is generally present, but should be regarded only as a secondary symptom, arising from some derangement in the functions of digestion.

Whether this peculiar state of the stomach arises simply from the mechanical effect of the pancreas on it, from its connection by sympathy, or from a deficiency, or some change in the pancreatic secretion, is an interesting question difficult to decide; perhaps neither should be wholly neglected. On mechanical principles we can readily account for the vomiting and acidity, from the pressure of an enlarged and schirrous pancreas on the stomach and pylorus, retarding the passage of the alimentary mass into the intestines. At the same time, the sympathy excited between these two organs, no doubt renders the stomach more irritable and easily excited into action by its contents.

With respect to the functions of the pancreas, in its diseased state, we have but little knowledge. We have no evidence that a change in the structure of this organ is accompanied by any specific change in the nature of its secretion. On the other hand, in the cases in which Morgagni speaks of the dark vomiting, in this disease, the pancreas when cut into, appeared dry and afforded but little of its natural secretion. The vomiting, therefore, and the peculiar character of the matter thrown up, appears to proceed rather from a deficiency of pancreatic juice, than from any specific change in its quality.

---

action, increased in their capacity and distended with blood. Take in connection with this, the circumstance that the blood vessels of a schirrous organ are diminished in their capacity, and incapable of easy distension, from the resistance made by the schirrous, through which they ramify, we cannot be at a loss for an explanation.

The incurvated state of the body appears also worthy of notice. This is probably chosen from its relaxing the abdominal muscles, enlarging the cavity of the abdomen, and thereby taking off from the diseased pancreas the pressure of the neighbouring viscera.

The above symptoms, so far as experience teaches, constitute the principal indications of an enlarged and schirrous affection of the pancreas;* but unfortunately they are not invariably referable to an affection of this organ. Certain affections of the stomach, small intestines, liver and spleen, sometimes embrace them. It is, however, generally not difficult when we take into view all the circumstances accompanying an original affection of these organs, to distinguish between them with a tolerable degree of certainty.

Inflammation, with its terminations in abscess and ulceration, are said sometimes to affect the pancreas, but we are not in possession of a set of symptoms, which in the present state of our knowledge, enable us to discriminate between affections of this kind, and its schirrous state.

Some few instances have occurred, in which worms and calculus have been taken from the pancreatic duct,† but these are extremely rare, and unaccompanied with any symptoms which enable us to foretell their existence.

The treatment of schirrous affection of the pancreas, it is evident, can be only palliative. The principal indications are to alleviate the pain, restrain the vomiting, and correct the acidity of the stomach.

---

* I am informed by one of our first American practitioners, (Professor Warren) that a tumour in the epigastrium with a strong pulsation, is generally an attendant on schirrous pancreas.

Perhaps this is the only invariable pathagnomonic symptom of the disease.

† Lieutaud.

ACCOUNT

OF THE EFFECTS OF ELECTRICITY.

IN A LETTER TO THE EDITORS, FROM PARKER CLEAVELAND, ESQ. PROFESSOR OF MATHEMATICS AND NATURAL PHILOSOPHY IN BOWDOIN COLLEGE.

It is not in the least surprising, that an agent so subtle and powerful as electricity, and so wonderful in its effects, should have excited much speculation, and led to many fanciful conjectures with regard to its influence, as a remedy in disease. Not content that it should occupy its proper rank, its friends have in some periods, gradually extended its supposed efficacy to almost every disease incident to the human system. But whatever may have been the varying reputation of electricity, in regard to its medical application; sufficient is now known to authorise the belief, that it is a powerful agent in the animal economy, and exerts an important influence on the human body, both in a healthy and diseased state. It may yet prove to be the principal agent in the secretions, compositions, and decompositions of both the animal and vegetable kingdoms. One thing is certain; the only method of ascertaining its effects on the human system, is by careful experiment, accurate observation, and a numerous collection of facts. The discovery of galvanism can hardly fail of promoting these objects, by the facilities it presents for electrical inquiry.

The following cases may not contain any thing hitherto unobserved, but many important facts have undoubtedly been lost by the want of some general repository, like the "New England Journal," in which they might be deposited. Such insulated facts, when collected and compared, may hereafter lead to some important general deductions.

In April last, Mr. P. of Bath, called on me for the purpose of receiving electricity. He was entirely deprived of the power of speech, and unable to produce any distinct sound. With a great and painful effort he succeeded in making known his wishes by an imperfect whisper. When he thus whispered, both the shoulders were considerably raised. He complained of numbness and stricture in the breast. In this situation Mr. P. had continued without any relief for about six weeks. His general health was comfortable. At first I permitted him to receive several shocks from a Leyden jar, of the capacity of one pint, about half charged, causing the fluid to pass from one hand to the other through the arms and breast. This charge he did not appear to feel above the wrists. I then gave the jar very nearly its full charge, and passed it two or three times through the breast. He then spoke, in a very audible manner, saying "my voice is coming." His voice then resembled that of a man somewhat hoarse with a cold. He added, "I feel a little of it (meaning the numbness) yet about the lower part of my breast." I then passed two or three similar charges through the part in which the numbness was felt. By this time Mr. P. spoke with his natural voice, and, as he assured me, with perfect ease; being entirely free from any numbness. As he was leaving the laboratory, I observed that the finger which he had applied to the brass knob of the jar, was entirely devoid of colour. It was cold and incapable of sensation. I passed a few charges through it, and in the course of a few minutes its colour returned.

So great a change in the space of five minutes was to me surprising; and I took the liberty of requesting Dr. Stockbridge of Bath, whose patient Mr. P. was, and who had sent him to me for the aforesaid purpose, to furnish me with a history of this man. Dr. S. very politely forwarded me an account of his patient; of which the following is an abstract. In October, 1787, Mr. P. (being then eighteen years old) while making uncommon efforts to lift a boat, felt something give way in his back. He immediately fell to the ground, and there remained several minutes, in great pain with fainting. After recovering so much as to walk, he waded through water as deep as his breast, and received a sever cold. In about a week he was attacked with a fever, attended with acute pain in the left side of the throat, and a severe cough without expectoration. His fever soon left him, but he remained infirm about five years, and was supposed by his physician to be consumptive. On the expiration of this time he so far recovered his health, as to be able to attend to his usual business. He was, however, soon visited by another disease. This commenced with a trembling of the extremities, and an indescribable uneasiness in the feet and hands, extending in a few minutes to the breast, and causing him instantly to fall senseless and convulsed. After remaining from two to five minutes, he recovered, and felt no inconvenience, excepting some degree of debility. He was frequently attacked in the same way, and generally after great fatigue and exposure to cold.

Mr. P. is a tanner. In June, 1796, while shaving leather at the currying beam, he was seized with acute pain at the point of the sternum and short ribs. This suddenly extended up the breast to the throat, and instantly subsided, leaving him entirely deprived of the power of speech, with a sensation of numbness and stricture across the lungs. The power of coughing was almost suspended, and it was with difficulty and a painful sense of suffocation, that any mucus collected on the lungs, could be expectorated. In this state he remained eighteen days, his general health being good, and sleep easy. He was at this time relieved by a few shocks of electricity, passed through the chest. Mr. P. enjoyed comfortable health, till September, 1802, when he was again deprived of the power of speech. He complained of numbness and stricture on each lobe of the lungs, while in the region of the sternum he felt free and natural. At this time he applied to Dr. S. who advised an epispastic, and a free use of onions, garlic, &c. By feeding on these, he found himself relieved without employing the blister. He continued subject to slight returns of this disease, until 1806, when a large abscess formed on the back between the scapula and spine, suppurated and discharged copiously; after which he was entirely free from any attack, and enjoyed good health till the last spring, when he was relieved in the manner before related. A short time since I understood he continued in the possession of comfortable health.

Another case, in which the subject was deprived of the power of speech, and in which electricity was applied without success, was that of a child, aged about ten years. While engaged in play, one of his companions threw a stone, which struck him on the back of the neck; in consequence of which blow, the child instantly became unable to speak, and his tongue remained incapable of motion, being very much withdrawn from the mouth toward the throat. In about half an hour he so far recovered his speech, as to inform his parents in what manner he had been injured. He then relapsed, and remained incapable of speaking for two months. On application to Dr. Lincoln, of Topsham, he advised to employ electricity. The child was accordingly brought to me for that purpose; but, so great was his terror, I was unable to pass any shocks through the neck. I could do no more than fill the child with the fluid, and draw a few sparks through flannel from the neck. No good effect followed. Dr. L. then applied a blister, which afforded immediate relief.

A short time after, the same child, falling backward from his seat at school, and striking the same part of his neck, where he had received the blow from the stone; was again deprived of the power of speech. In this situation his friends permitted him to remain for five years, without causing any application to be made. At the expiration of this period, the boy was engaged in a violent scuffle, in which his limbs were very much exerted, and his passions somewhat excited. During the ensuing night he awoke from sleep, found his tongue at command, and the power of speech returned. Very possibly electricity might have given relief in the latter case, could it have been communicated in shocks. This, however, cannot be inferred from the former case, as the loss of speech, in the two instances, was attended by very different circumstances.

Oct. 9, 1812.

EXPERIMENTS AND OBSERVATIONS

ON CUTANEOUS ABSORPTION,

BY THOMAS SEWALL, M. D.

Does the human body sustain the function of cutaneous absorption? is a question long since submitted to the public.

Without any direct proof, the existence of an absorbing function of the skin, has generally been admitted by physiologists of all countries. Doubts were first raised on this subject by the French physiologists, and gained great strength in this country by the ingenious and interesting experiments of Dr. Rousseau, Klapp, Smith, and Daingerfield of Philadelphia. But in 1809, Dr. Mussey of Massachusetts, by a course of bold and original experiments, seems to have put an end to the controversy, and established beyond doubt, the existence of this interesting function of the skin. It only remains to learn, what substances are and what are not absorbed, and whether this function is universal, or limited to certain parts of the body. With this view the following experiments were made:

EXPERIMENT I.

September, 1809. I immersed my feet in an infusion of four ounces of madder in one gallon of water, at the temperature of 99°, that of the atmosphere 65°. The infusion just covered the melleoli interni. In this condition I suffered my feet to remain ten hours. Urine was drawn at the time I placed my feet in the infusion, again at different intervals for thirty hours afterwards.

The first drawn portion was pale and not changed in its colour by adding to it a solution of the vegetable fixed alkali. The portion drawn two hours after was also pale and not changed by the alkaline test. The portion drawn four hours after I placed my feet in the infusion, on the application of the alkali was evidently reddened. The different portions drawn at the end of the sixth, eighth, tenth, and twelfth hours after I placed my feet in the infusion, were high coloured and exhibited a bright crimson, on adding to them a few drops of the alkaline test. The bright crimson in the succeeding portions gradually subsided, but the red colour could be distinctly traced in the portion drawn twenty four hours after I first placed my feet in the infusion. Afterwards the red colour was gradually lost. Blood was drawn from the arm just before and after I placed my feet in the bath, but the serum of both portions was of its natural colour, and not changed by the alkali.

EXPERIMENT II.

I immersed my feet in an infusion of madder four hours. Urine was drawn when I placed my feet in the infusion, again at the end of the second hour. Neither portions exhibited any change when tested with the alkali. That drawn at the end of the fourth hour was evidently higher coloured, and on adding a few drops of the alkali, instantly assumed a bright red. Urine drawn at the end of the twenty fourth hour, was of its natural colour, and not changed by the alkaline test.

EXPERIMENT III.

I immersed my hand and wrist seven hours in an infusion of four ounces of madder in two quarts of water, at the temperature of 98°. Urine was drawn at the time I placed my hand in the infusion, again at the end of the third, fifth, seventh, ninth, eleventh, fifteenth and twenty second hours. The first and second portions were of the usual colour, and not changed by the alkali. The portions drawn at the end of the fifth, seventh and ninth hours, were evidently higher coloured, and on adding the alkali, instantly assumed a bright red. The red colour in the succeeding portions gradually subsided, and the portion drawn at the end of the twenty second hour, was not altered by the test.

EXPERIMENT IV.

I immersed my hand and wrist four hours in an infusion of three ounces of rhubarb in two quarts of water, at the temperature of 98°. Urine was drawn at the time I placed my hand in the infusion, and at different intervals for twenty four hours after. The first portion was of its natural colour, and not changed by the alkali. Those portions drawn at the end of the fifth and sixth hours of the experiment, exhibited, on the application of the alkali, an evident change to an orange colour.

Since making the above experiments, I have immersed my feet for several hours in infusions and decoctions of redwood, logwood, and oak bark, but have not been able to detect any of their colouring principle in the urine.

READINGS AND OBSERVATIONS.

No. I.

BLOOD LETTING.

So far is it from strange that doctors should disagree, that we believe it would be difficult to find a case in which they agree. It seems to be the most prevalent opinion, that the abstraction of blood from the system, diminishes excitement, especially in the blood vessels; inasmuch as it diminishes the quantity of stimulating matter in those vessels. On the other hand, Dr. G. Fordyce contends that the abstraction of blood occasions excitement in the blood vessels, and draws off the vital energy from other parts. It occasions excitement, he says; for it is a law of the system, that the blood vessels shall at all times so contract on their contents, as that these vessels shall be exactly full. Whenever the blood is abstracted, a necessity is created for the contraction of the blood vessels to accommodate them to their contents; and when a large quantity of blood is drawn off suddenly, those vessels are required to make a great and sudden effort; and this effort like any other powerful muscular exertion, occasions weakness in the rest of the system. In certain cases, it may happen that the vessels are distended unduly, and are disposed to contract more than their contents will permit. In such cases, if precisely the right quantity of blood be removed, the contraction which takes place may be a relief to the arteries, permitting them to effect the action which they are attempting. It is as if a muscle had been mechanically distended, and the mechanical cause being removed, the muscle was permitted to contract to its usual dimensions; or the relief might be compared to that experienced by the rectum, or bladder, when evacuated after great distension.

Certainly we know not how to disprove the truth of Dr. Fordyce's principles, and yet we scarcely dare oppose the orthodox of the day.

CREMOR TARTARI.

Dr. Home, in his "Clinical Experiments and Histories," gives an account of the introduction of this article into Scotland, as a remedy for dropsy. He derived his first knowledge of the use of the remedy from an Italian physician, by the name of Vincenti Manghini. It cured thirteen patients among twenty, to whom it was exhibited by Home; and neither the subjects nor the cases were remarkably favourable. The cures by this medicine, did not appear to depend on any operative effects in these cases. So far as it had such effects, they were probably useful. But its most beneficial operation, seemed to Dr. Home to be that of a deobstruent; or to avoid the language of theory, this medicine seemed to him to cure the organic disease, on which the dropsy depended. Accordingly he used it in some cases of diseased liver "with great success." His observations on this article are certainly worthy attention. It is true that the cream of tartar is every where employed in hydropic cases, but perhaps with not all the success which would be derived from it, if attention were paid to all the rules and cautions given by Home. He administered from half an ounce to two ounces a day, and dissolved it in at least twenty times its weight of water.

Ferriar confirms the antihydropic powers of cream of tartar in his "Medical Histories and Reflections." He does not, however, entirely agree with Home as to the modus operandi of this remedy. Other respectable writers have also added their testimony to that of the celebrated experimentalist of Edinburgh.

CROUP.

In a late case of this terrible disease, a child of fifteen months was bled to the amount of six ounces from the external jugular, *twenty four hours after the commencement of the disease.* There ensued a very long continued faintness, and it was manifest, that the remedy could not have been employed to a much greater extent, without serious consequences. But the result was happy. In a few hours the respiration altered, and it was nearly natural in twelve hours after the bleeding. A recurrence of the disease the next evening was apprehended, but it did not take place. The child ultimately did well.

DISSECTION OF A LIMB,

ON WHICH THE OPERATION

FOR POPLITEAL ANEURISM,

HAD BEEN PERFORMED.

BY ASTLEY COOPER, ESQ. F. R. S.
SURGEON OF GUY'S HOSPITAL.

[From the Medico-Chirurgical Transactions.]

Having lately had an opportunity of dissecting the limb of a man who had a popliteal aneurism, for which the operation of tying the femoral artery was performed seven years ago, and having injected and dissected the limb, I thought that a short account of the appearances, might not be deemed unworthy the Society's attention.

Independent of the gratification of curiosity in observing the mode by which the tributary streams supply the want of the chief channel of the blood, a knowledge of the exact course of the enlarged arteries will be useful in the after treatment of patients who have undergone the operation for aneurism, as it will teach the position least liable to compress the anastomosing vessels.

When this limb is examined, it will be seen that the arteries which form the new circulation are not only enlarged, but that they have also become *tortuous*. This change in figure is at first the effect of an increased momentum of the blood in the anastomosing vessels which elongates them, and therefore prevents their lying in the same space as before, a circumstance that may be at all times seen on injecting arteries, that if the injection is much forced, the vessel becomes serpentine. But in the living artery this tortuous course is established by a new growth; for at the time that the vessel elongates and increases in diameter, its coats also become considerably thicker than natural: and thus it is kindly provided, that as the vessel enlarges, and the original matter of which it was formed is expanded over a larger surface, instead of the vessel becoming thinner, the increased determination of blood upon the artery occasions the deposit of additional matter in its coats, and its strength, as well as its length and diameter, are increased.

In enlarged veins, as well as arteries, this tortuous course may be observed. This limb will shew it with respect to the arteries, and with regard to veins it will be well seen in a plate published by Dr. Baillie, in the work for the improvement of medical and surgical knowledge, in which a view is given of the vena azygos enlarged and tortuous from an obliteration of the vena cava inferior, and it may be at all times seen in varicose veins of the lower extremities.

This tortuous course of vessels will be also observed in the arteries of old persons, in whom the coats of the vessels are ossified; for in these cases, as the circulation is less assisted by the arteries of the part, the heart is called upon to make extraordinary efforts, by which the blood is sent with such momentum upon the aorta, as to increase its length and diameter, and render its course serpentine. It is in the aorta before it forms its curvature in the abdominal aorta, and in the iliac arteries that this change is most conspicuous.

Any great increase in diameter of the anastomising vessels is but slowly produced, for I have injected a limb several weeks after the operation for popliteal aneurism, without being able to force the injection through communicating vessels into the parts below. To enlarge the vessels much, it is necessary that the limb should have been employed in active exertion.

On account of the arteries not very readily enlarging, the limbs of those who have undergone the operation for aneurism are for a considerable time weaker than natural. They feel the influence of cold more, are more disposed to ulcerate from slight causes, and when sores are produced, have diminished powers of restoration. On account of the languor of circulation and the diminished power of resisting the influence of low degrees of heat, it is right, after the operation for aneurism, to clothe that limb much warmer than the other; for which purpose, a piece of flannel or a fleecy stocking should be applied to prevent the sedative influence of cold.

A man who had undergone the operation for popliteal aneurism, complained in the evening of his leg being painful, and a dresser going through the ward, applied a lotion of the acetate of lead, and when the rags were removed on the following morning, the limb was found mortified.

Mr. Campbell, a patient of Mr. Curtis, surgeon in Whitechapel, underwent the operation for popliteal aneurism at a time when the weather was extremely cold. In three nights after the operation, he said his foot was benumbed, and when it was examined, it was found to be of a blue colour and quite cold. Frictions were immediately had recourse to; first with the hand only, and, after a time, with warm flannels, and the circulation was restored, although with considerable difficulty.

When a ligature has been applied, it is some time before the artery below becomes obliterated. Mr. Forster, surgeon of Guy's Hospital, has a drawing in his possession of a case of popliteal aneurism, for which the femoral artery was tied in August; the man died in January following, and when the limb was injected, the femoral artery, below where the ligature had been applied, was found to have received a part of the injection by communicating vessels.

It is for this reason that the pulsation in some aneurisms where there are free communicating vessels, will remain for a considerable time after the operation. However, in twelve or fourteen months, when the femoral artery has been tied, it becomes obliterated, above the ligature to the arteria profunda, and below it, to the origin of the anterior tibial artery; and sometimes the remnant of the vessel is not only converted into a cord, but is ossified.

It is scarcely necessary to observe how improper it is to apply bandages upon limbs in which the principal artery has been tied; but I mention it because I have seen a roller used to confine dressings; on the same account it is required that attention should be paid to the position of the limb, to prevent any pressure being made by pillows, which may obstruct the course of the blood in its new channels.

DISSECTION OF THE LIMB.

The femoral artery which is necessarily obliterated by the ligature, was here converted into a cord from the origin of the arteria profunda down to the ham. The whole of the popliteal artery was also changed into a similar substance; and thus the natural channel of the blood from the groin to the lower part of the knee was entirely destroyed. The muscles, therefore, which usually receive blood vessels from the femoral artery, as the sartorius, the rectus, and the vasti, had no branches, but from the arteria profunda and circumflex arteries; and the articular arteries from the popliteal, although they were still capable of receiving blood, derived it, not from the popliteal artery, but from the communicating vessels of the profunda.

The arteria profunda formed the new channel for the blood. Considerably enlarged in its diameter, although still not equal in size to the femoral artery at the groin, it took its usual course to the back of the thigh on the inner side of the thigh bone, and sent branches of a larger size than usual to the flexor muscles of the leg, and just midway on the back of the thigh it began to send off those arteries which became the support of the new circulation.

The first artery sent off passed down close to the back of the thigh bone, and entered the two superior articular branches of the popliteal artery, which vessels supply the upper part of the knee joint.

The second new large vessel arising from the profunda at the same part with the former, passed down by the inner side of the biceps muscle to an artery of the popliteal, which was distributed to the gastrocnemius muscle, whilst a third artery dividing into several branches, passed down with the sciatic nerve behind the knee joint, and some of its branches united themselves with the inferior articular arteries of the popliteal, with some recurrent branches of those arteries, with arteries passing to the gastrocnemii, and lastly, with the origin of the anterior and posterior tibial arteries: and these new large communicating branches were readily distinguished from others by their tortuous course.

It appears then, that it is those branches of the profunda which accompany the sciatic nerve, that are the principal supporters of the new circulation. They were five in number, besides the two deep seated arteries which do not accompany the nerve.

The external circumflex artery was considerably larger than usual for the supply of branches to the muscles on the fore part of the thigh, but it had no branches for the new circulation.

The obturator artery did not appear larger than usual, and although much pains were taken to trace any enlarged communicating branches between the ischiatic arteries and profunda, yet no vessels capable of receiving coarse injection could be found.

Anastomosis appears to be so free in all the arteries of the limbs and in the vessels of the head and neck, that there is no difficulty, with the precautions that I have mentioned, in the blood finding its course in new channels when the old are interrupted. If there is any exception to this statement, it is with regard to the subclavian artery. But experience is not yet sufficient to lead to a decisive judgment upon this point.

Mr. Ramsden has published an account of an operation on the subclavian artery, and the man does not appear to have died from want of anastomosis. Sir William Blizard has also lately tied this artery, and, as I understand, accomplished the operation with great ease; but the man was advanced in years, and much reduced in strength, and he died on the fourth day after it had been performed.

In other animals the blood may be diverted from its proper channels in all the external arteries of the body. The carotids, the femoral, and brachial arteries may be tied, and yet the life of the animal be preserved.

The preparations which I have now the honor of shewing to the Society were made under the following circumstances.

I have been long in the habit of tying the carotid arteries in the dog in my Surgical Lectures, for the purpose of shewing the falsehood of the prevailing idea that a ligature upon these arteries produces sleep or coma in the animal. In a healthy dog who had been the subject of this experiment, I made ligatures upon both the femoral arteries; and when these ligatures had separated, and the wounds had perfectly healed, I tied one brachial artery, and that wound having closed, the other brachial was cut down upon, and, as I supposed, divided and tied. The animal survived these different experiments, and lived above a year afterwards. Immediately after death it was injected, and the injection had passed so successfully in the neck, and in the thighs, as to make beautiful preparations of the anastomosing vessels. But the injection failed in one of the fore extremities, so as to leave a doubt whether the brachial artery had been divided, or the radial or ulnar under a high division of the brachial artery. This, however, is certain, that the animal lived for more than twelve months with the two carotids, the two femorals, and one brachial artery obliterated.

These experiments were made not merely with a view to ascertain the extent of the anastomosing principle, but also for the purpose of learning if any change would be produced in the habits of the animal, in consequence of the blood circulating through new and numerous channels; for it has been observed by Mr. Carlisle that slow moving animals have such a circulation; but with regard to this dog, he remained equally lively and active as before.

Lastly, I was anxious to ascertain when even the aorta was tied, if the blood would still find its course by anastomosis.

It is now more than two years ago that I opened the abdomen, by an incision of about three inches in length close to its junction with the loins, and turning aside the peritoneum with my finger, I felt the aorta pulsating, and passing a blunt hook under it, easily put a ligature around it.

During the last winter, assisted by my friends Mr White and Mr. Dean, two of our most promising and intelligent pupils, I repeated the experiments, and have the honour of shewing to the Society the aorta tied and divided, the animal having survived the experiment, and maintained his usual health ; the ligatures coming away as other ligatures upon arteries, and a successful injection having been made of the body, the anastomosing vessels are beautifully seen. These were sufficiently large and numerous to allow of a free injection of the femoral vessels.

Some degree of weakness is produced in the hinder extremities by a ligature made upon the aorta ; but it is not sufficient to prevent the animal from using them with great freedom, and would scarcely be observed by one who knew nothing of the experiment.

Previous to the animal being killed, the femoral artery and vein were laid bare ; the blood in the artery was florid as usual, and passed with a motion that was pulsatory, although weaker than natural.

CASE OF A FRACTURED CRANIUM,

WHERE THE DURA AND PIA MATER WERE LACERATED, AND A GREAT QUANTITY OF THE CEREBRUM PROTRUDED, WHICH TERMINATED FAVOURABLY.

BY P. T. CREAGH, ESQ. SURGEON OF THE ROYAL NAVY.

[From the Medico-Chirurgical Transactions.]

His Majesty's Ship Hind, off the Island of
Milo, Archipelago, Nov. 20, 1807.

Thomas Riggs, a seaman, belonging to his Majesty's ship Seahorse, was received on board of this ship, at nine o'clock this morning, out of a Turkish prize, captured by the Seahorse, some days ago, off Candia, afflicted with the following wounds, which he received about ten o'clock last night from some of the foreign prisoners, who had endeavoured to assassinate our men, and retake their ship.

The two ossa parietalia were considerably injured, particularly the left, and the following fractures were traced in different directions.

1st. A large fracture was found running from about the middle and superior portion of the left parietal bone, backwards and downwards, towards the lambdoidal suture.

2d. A second fracture extended from near the origin of the latter fracture, directly across the sagittal suture, and embracing about two inches and a quarter of the right parietal bone: a fissure extended farther on into the same bone.

3d. Another line of fracture began one inch and a quarter from the origin of the latter, backwards, crossing the sagittal suture, and almost communicating with the second fracture in the right parietal bone, forming nearly an obtuse angle.

4th. A fourth fracture extended from the origin of the first, running forwards and downwards, towards the left side.

A considerable portion of the right parietal bone was forced up about its centre by an oblique blow, made by a cutting weapon, beginning from below upwards. This injury, from the depth and direction of the probe, appeared to extend to the inner table of the cranium.

5th. Another fracture extended from a little above the middle of the left orbit, obliquely upwards and backwards, towards the left side. This fracture was made by a cutting weapon, in a perpendicular direction.

At the origin of the first fracture, as I have called it by way of distinction, the cranium was shattered into several pieces; one splinter penetrated the dura and pia mater, and dipped deep into the substance of the brain itself, which made way afterwards for a vast deal of that substance to protrude and to ulcerate.

After shaving the head, I examined minutely the nature and degree of the injury received; and, tracing the fractures to their origin, I removed such portions as were loose, and two that were compressing the brain, and I elevated others on a level with the uninjured cranium. All the clotted blood being removed, the membranes dressed, and adhesive plasters applied to prevent the scalp from retracting, he was let blood, took a saline cathartic draught, and was put to bed. He remained quiet all the day, but became a little restless towards evening, and in consequence took a draught, with gr. xxiv. of Tinct. opii.

November 21.—He is apparently better this morning, but he was occasionally disturbed with rigors in the night; in other respects he passed it quietly; has had one evacuation.

Injiciatur enem. commun. h. s.

P. M. He spent the day very quietly; was much inclined to doze; has had only two loose stools since he was wounded; pulse quicker; heat increased. I removed the dressings. From the parts whence the bones were taken away, there is a good discharge from the surface, and the substance of the brain protrudes.

Habeat haustus salin. in actu effervescentiæ tertia quaque hora.

R. Extract. colocynth. comp. gr. i. Calomel. gr. iv. ft. pilul. N°. vi. hora somni sumendæ.

22d.—He passed a quiet night, and had one evacuation this morning; pulse 78; he is very sensible to all that is done about him; discharge as before.

23d.—Spent a restless night; complained frequently of his head, and of a severe pain shooting across his forehead. The pulse is full, and harder than before.

Emittantur sanguinis unciæ xij Repet. haust. salin. & pil. colocynth. circum meridiem.

P. M. He experienced great relief from the bleeding; passed the remainder of the day very quietly; has had no evacuation since yesterday.

24th.—Passed a tolerably quiet night; had one copious loose stool this morning; there is a good discharge from the wounds; the pain of the head and eyebrows continues; skin perspirable; has an inclination to doze.

P. M. Pain continues severe.

Repet. pil. colocynth. superbibendo infus. sennæ tartar. uncias iij.

25th.—At 9 A. M. pain of the head and eyebrows is increased; there is a copious discharge from the wounds; had three evacuations early in the morning; the paralysis of the arm continues, and a partial one of the same side, and of the lower extremity has taken place; great propensity to sleep, with an astonishing degree of stupidity and wildness of countenance. The cerebrum protrudes through the ruptured membranes; the eyes are somewhat fixed, and the pupils rather dilated. A portion of the left parietal bone, passing backwards and downwards, having risen above the level of the sound cranium, and in other parts being apparently depressed, I was led to suppose this to be the cause of the present distressing symptoms. Accordingly I enlarged the wound, and, with the head-saw I began to remove a longitudinal portion.

After some time, I discovered that the entire fractured piece might easily be taken away, from its loose attachment; I therefore raised the scalp, and brought away a large piece of bone, under which, and upon the dura mater, lay a thick layer of coagulated blood, firmly adhering to this membrane. After removing this coagulated blood, I applied a thin intervening dressing, and brought the scalp as near as possible to its neighbouring skin.

Seven P. M. He is much better. The pulse is increased in fulness and frequency.

Emitt. sanguinis unciæ xij. ℞ Haust. salin. cui adde tinct. opii gutt. gr. xxiv. horâ somni sumend.

26th.—He passed a quiet night. The dura mater, laid bare yesterday, exhibits a healthy aspect. The cerebrum protrudes; there is a good discharge from the wounds; pulse 74, and irregular; tongue moist; speaks incoherently at times; there is a slight inclination to nausea; takes no medicine, but has a nourishing diet.

27th.—There is a good discharge from the sores; a slight pain of the head remains; pulse 77, and irregular; eyes somewhat dilated, but sensible to the approach of light.

P. M. Appears worse this evening; has had several attacks of muscular distortion of the face; there is a profuse discharge from the wounds.

Habeat pulv. ipecac. comp. gr. x. tertiis horis.

28th.—He took two doses of the powders, and brought up the third; appears more tranquil this morning; pulse 77; a good granulation begins to spring up from the dura mater; nourishing diet continued; mutton broth, &c.

Repet. hora somni pilul. colocynth. ut antea.

29th.—He appears cheerful, and is perfectly sensible; discharge as before; the substance of the brain continues to protrude; the aperient pills have not yet operated.

P. M. Pain of head continues.

November 30th.—The appearance of the sores and of the discharge is good, and granulations are rising fast; his aspect is, nevertheless, very unfavourable; he is much inclined to doze; he will not take any nourishment, and appears lethargic; a little Port wine was allowed him.

P. M. Every symptom of approaching dissolution seems to advance rapidly; has not taken any nourishment since morning, excepting a very small quantity of wine with water.

Applicet. Emp. Cantharid. nuchæ colli.

December 1st.—He spent a bad night; had three different attacks of convulsive tremors about three o'clock this morning; is much inclined to doze, and is at times in a comatose state; the breathing is very low and interrupted; the convulsive tremors have returned; the paralytic affection of the side and lower extremity has considerably increased; pulse low and frequent; and he is no way affected by the approach of a strong light. From these symptoms, I was sure that more of the cranium required to be taken away. Accordingly I removed a portion of the fourth fracture in the left parietal bone, nearly of a triangular shape, which admitted of another bone being raised. The removal of this bone made room for the free exit of serous fluid, and coagulated blood that lay underneath the bone, upon the dura mater; and the removal of this bone also exposed entirely the ruptured membranes, with the cerebrum protruding through, and a portion of the longitudinal sinus. After removing the extraneous fluid, he was simply dressed and put to bed.

2d.—He passed a quiet night, but slept very little; skin hot; pulse 77; about a tea-spoonful of the brain protruded.

P. M. No change.

Repet. hora somni haustus salinus cum opio.

3d.—His sleep has been more friendly during the night, and every symptom is more favourable; slight ulceration on the surface of the cerebrum has taken place, with considerable motion of that viscus, similar to the pulsation of the arteries; the paralysis of the side is seemingly less; the discharge lying on the surface of the brain was removed, by introducing a little clean sponge with a pair of forceps, and lint afterwards; takes no medicine.

6 P. M. Slept for about three hours during the day; appetite improves, and he had one evacuation; pulse natural; skin moist.

Repet. haust. salin. cum opio.

4th.—There is no particular change this morning.

5th.—The appearance of the sores continues favourable, and no bad symptom has intervened. The pulsating motion of the brain is very slight in the morning, but increases towards evening. Takes mutton broth, and sago and tea.

6th.—He appears very low and languid; has had no evacuation these two days past; appetite is worse; pulse 77; a little wine is mixed with his sago.

Repet. pilul. colocynth. C. ut antea.

P. M. Had one loose stool.

7th.—He passed a quiet night; seems very low; there is a good discharge from the external wounds, and the cerebrum protrudes as usual; feels no pain of the head. There is a profuse discharge from the wounded os frontis, and the bone is denuded of its pericranium; the fracture is sufficiently wide to allow of a free exit of any fluid that may collect within; the dura mater can be felt with the probe; the fractures crossing the sagittal suture are also discharging healthy pus; the fractured portion of the right parietal bone can be easily moved up and down; but as it in no way compresses the brain, I did not think it right to remove it. Dressings as before; takes as much of the decoction of bark as will lie upon his stomach; has an egg every morning.

8th.—He has been very uneasy all night and this morning; looks wild and melancholy; pulse natural; skin cool; the paralysis of the side has almost left him, and the lower extremity feels better; the arm continues without any sensation or muscular motion; bark continued as before.

Repet. pilulæ. catharticæ.

9th.—Passed a quiet night; had two loose stools. The healthy discharges continue; appetite improves; pulse natural; the febrile symptoms which threatened to rise last night, have disappeared. The cerebrum, as seen through the ruptured membranes, is of a bright red colour, and healthy granulations are shooting up from all parts of the dura mater. Mutton broth, and a little mutton, for dinner.

10th.—The aspect of the sores is very favourable, excepting the ruptured membranes of the brain, which appear dark and sloughy. The pulsating motion of the brain increases towards evening.

All the functions are natural; he has recovered the use of his side, and almost of the lower extremity. Bark is given freely.

11th.—The ulcerating process of the cerebrum has increased; the other parts remain as they were: dressed twice a day.

12th.—The ulcerating process has dipped deeper into the substance of the brain, and the increased discharge is removed by a little sponge and dry lint, and afterwards by spreading a little dry lint over the surface, to remain there for the night, and absorb whatever fluid may be secreted. The appetite is very keen, skin perspirable, belly rather costive; rich nourishing diet is given him often, but in small quantity.

P. M. The cavity in the cerebrum which is very conspicuous in the morning, fills up considerably towards evening, although no perceptible velocity takes place in the pulse.

13th.—That part of the dura and pia mater which is seen through the ruptured membranes, has contracted a very firm adhesion to the cranium; the cerebrum is of a bright red, and has a glandular appearance. Repet. pilul. Colocynth. ut antea.

14th.—The discharge is very copious from the fifth fracture, and granulations are rapidly embracing the edges of the ruptured membranes, which it was necessary to check, to allow a free exit for the discharge from the cerebrum beneath. This discharge, however, continues to lessen, and the glandular appearance is more distinct, with considerable irregularity of surface. Has had two evacuations since morning, feels no pain, pulse 73, appetite is very good; has mutton and fowl broth for dinner, one egg and a bason of tea for breakfast. As he expressed a great desire for wine, I indulged him with a wine glass full at noon.

15th.—Appearance of the cerebrum as yesterday; the cavity, which is very conspicuous in the morning, lessens very perceptibly towards evening. There is a very good discharge from the fractures; the bark decoction is continued.

16th.—After removing the dressing early this morning, a quantity of serous discharge escaped from the cerebrum very little discoloured. All functions natural; appetite very keen; he feels no uneasiness whatever; the pulsating motion of the brain does not correspond with the pulse at the wrist.

17th.—There is very little discharge from the cerebrum, and this is almost serous. Arrived at Malta, and were put under quarantine.

18th.—He is very cheerful; the discharge from the cerebrum is very small in quantity, and of a serous nature; the wounded os frontis discharges freely.

19th.—Discharge from the cerebrum as before; a little lint was introduced to absorb it; he passed a good night.

4 P. M. I removed the dressings once more; and as the membranes have adhered very firmly by granulations, I thought best to suffer them to remain so, particularly as the discharge from the cerebrum was very small in quantity in the morning; the discharge from the other sores is very favourable.

Sent my patient to the Naval Hospital at Malta.

I need not observe that the strictest regularity of general regimen was most rigidly adhered to, and every possible precaution taken to exclude the admisson of the atmospheric air. A great deal must, however, have come in contact with the surface of the brain daily.

General warmth was attended to from the beginning, pledgets of fine tow being applied over the dressings, and flannel and linen night-caps over all. Care was taken to cause regular evacuations to take place, keeping the body at rest, and abstaining from every kind of medicine and nourishment that could excite the slightest sensation of nausea, as I observed that this always increased the pulsating motion of the brain. I trusted chiefly to nourishing diet, repeated as often as prudence would admit.

Here ends the relation of the general symptoms and treatment of this patient's case, while he was under my care. While I remained in harbour, I visited him daily; he continued to recover strength and appetite ; the sores healed kindly ; no further discharge took place from the cerebrum, the ruptured membranes having remained united from the 19th. Gentle exercise was recommended by Mr. Allen, the surgeon to the Naval Hospital, and a bottle of porter daily, which was the only alteration he made in the plan of treatment pursued by me. After the sores had healed, and the paralytic affection had left him, he was invalided and sent to England.

I cannot take on myself to say the quantity of brain that protruded and ulcerated ; but owing to the length of time that the brain was protruding, and the increase of the pulsating motion of the cerebrum as the vacuum increased, together with the appearance of the hollow space when most conspicuous, I am persuaded the loss could not be less than a large egg full and a half, and I am inclined to believe it much more.

P. T. CREAGH, Surgeon, Royal Navy.

No. 9. *Panton Square,* 9 *Dec.* 1810.

REVIEW.

ARTICLE XI.

Elements of Chemical Philosophy, by Sir Humphrey Davy, L. L. D. Sec. R. S. Prof. R. I. &c. &c. &c. &c. Part 1. Vol. I. London. 8vo. 1812.

This work which we have long impatiently expected has at length been received, and we hasten to lay before our readers a brief account of its contents. Every thing from this great chemist must be regarded with attention; but the volume before us is calculated to excite great interest, as it may be supposed to contain some of the results of the profound researches and laborious investigations, by which his brilliant career has been distinguished. We purpose to give a very general analysis of this book, which is but a part of, probably, a much larger work.

The introduction comprises an "Historical View of the Progress of Chemistry." The first part, is a philosophical view of the causes which operated against the advancement of demonstrative science. It was retarded by the erroneous principles adopted in the schools of Pythagoras, of Aristotle, and of Epicurus, and imitated by the few Roman philosophers. Arabia is allowed the merit of having shown the first dawnings of this science; it was afterwards advanced by the alchemists, but received a temporary check in the middle ages, from the refined but useless logic, and the ingenious though absurd speculations of the scholastic philosophy, which was "founded rather on the analogies of words than the relations of things, and was more calculated to conceal error, than to discover truth."* "The delusions of alchemy were exposed by Guibert, Gassendi and Kepler." The revival of letters; the writings of lord Bacon; the application of his principles by Boyle and others, and the establishment of philosophical and literary societies, finally subverted the visionary hopes of the alchemists, and led the observers of nature to acquire a knowledge of facts by experiment. Newton by his labours embodied these facts; he deduced principles; and from him may chemistry be considered as a science. The author's view of the comparative merits of those great philosophers and chemists, Black, Cavendish, Priestley and Scheele, is admirable. It is concise, just and discriminative. Much time and great labour must have been bestowed by Sir H. Davy, in the collection of the materials, of which this historical view is formed.

---

* Page 20.

Part I. is arranged into seven divisions, the first of which includes "the powers and properties of matter, and the general laws of chemical changes." On the fomes of matter, on gravitation, cohesion, heat or calorific repulsion, and on chemical attraction, the author is very concise.

With regard to the cause of heat, or caloric, Sir H. Davy still retains the opinion, which he formed at the earliest period of his career, that it is merely *motion;* for after having reviewed its phenomena, he proceeds to observe, "the immediate cause of the phenomena of heat then is motion; and the laws of its communication are precisely the same as the laws of the communication of motion."*

On the subject of affinity also, he controverts the principle advanced by Berthollet, that chemical attraction is in the ratio of the affinity and quantity of matter. He remarks that most of the cases brought forward by that author, may be referred to the phenomena of double attraction; and, "there appears no difficulty in reconciling the doctrine of definite proportions with the influence of quantity; none of the experiments of M. Berthollet, can be considered as strictly contradictory to the doctrine; and some of the most important results of this sagacious chemist afford it confirmation."

The section on *electrical attraction and repulsion,* as might be expected from the variety of phenomena it embraces, and the attention which this distinguished chemist has bestowed on them, though obviously compressed, still occupies a considerable portion of the volume. This, however, is not to be regretted, since here, more than in any other part of the work, we recognise the great chemist and the true philosopher.

---

* Page 95.

The most novel and certainly the most interesting part of this section is that which relates to the chemical powers of matter, and the manner in which electricity "modifies, exalts, or destroys these powers. Most of the substances which act distinctly upon each other electrically, are likewise such as act chemically when their particles have freedom of motion; this is the case with the different metals, with sulphur and the metals, with acid and alkaline substances; and the relations of bodies are uniform; those which have the highest attracting powers being in the relation of positive, in arrangements in which chemical changes can go on."

"Bodies that exhibit electrical effects previous to their chemical action on each other, lose this power during combination."

"Acids which are negative with respect to alkalies, metals and earths, are separated from these bodies in the voltaic circuit, at the positive surface; and alkalies, metals and earths are separated from acids at the negative surface; and such are the attracting powers of these surfaces, that acids are transferred through alkaline solutions and alkalies through acid solutions to the surfaces, where they have their point of rest."

"The connection of electrical phenomena with chemical changes is evident likewise in the general phenomena of the battery. The most powerful voltaic combinations are formed by substances that act chemically with most energy on each other; and such substances as undergo no chemical changes in the combination, exhibit no electrical powers."

But the conclusion which has been drawn by some philosophers that these electrical powers are the result entirely of chemical changes, is regarded by Sir H. Davy, as incorrect.

To account for this connection between chemical changes and electrical powers, Mr. Davy has assumed the following hypothesis.

"Electrical effects are exhibited by the same bodies, when acting in masses, which produce chemical phenomena when acting by their particles; it is not therefore improbable, that the primary cause of both may be the same, and that the same arrangement of matter, or the same attractive powers, which place bodies in the relations of positive and negative, i. e. which render them attractive of each other electrically, and capable of communicating electrical powers to other matter, may likewise render their particles attractive and enable them to combine when they have freedom of motion." "This view of the possibility of the dependence of electrical and chemical action on the same cause, has been much misrepresented. It has been supposed that the idea was entertained, that chemical changes were occasioned by electrical changes, than which nothing is further from the hypothesis I have ventured to advance. They are conceived on the contrary to be *distinct* phenomena, but produced by the *same power*, acting in one case on masses, in the other case on particles."

With respect to the nature of the cause of electrical phenomena, Sir Humphrey Davy, with that caution which distinguishes the disciple of the great Verulam, declines advancing an opinion. He observes, that "with regard to the great speculative question, Whether the electrical phenomena depend upon one fluid, in excess in the bodies positively electrified, or upon two different fluids, capable of producing by their combination heat and light, or whether they may be particular exertions of the general attractive powers of matter, it is perhaps impossible to decide, in the present imperfect state of our knowledge."

"Some modern writers have asserted the existence of an electrical fluid with as much confidence as they would assert the existence of water; and have even attempted to show that it is composed of several other elements; but it is impossible in sound philosophy to adopt such hasty generalizations."

In the next section on analysis and synthesis, we are presented with the principles on which is founded the arrangement of the subsequent matter of the work. The order of arrangement of the *undecompounded* subtances is made dependent upon their electrical relations; those determined to the *positive* surface of the voltaic combination being arranged in one class; and those determined to the *negative* surface in another; and the subdivisions of the classes will be made according to their natural relations.

Of the powers which operate in producing chemical phenomena, he first notices "*radiant or etherial* matters, as their principal effects seem rather to depend on their communicating motion to the particles of common matter, or modifying their attractions, than to their actually entering into combinations with them."

In this division are noticed the effects of light, and what is usually denominated radiant heat. With regard to the nature of the motions or affections of radiant matter, the author appears to have adopted the philosophy of Newton, that the rays of light consist of particles endowed with rectilineal motion, in opposition to the hypothesis of Hooke, Huygens and Euler, that the phenomena of vision depend on the undulations of a highly rarified elastic substance. He even seems inclined to favour the hypothesis advanced by Newton in the form of the quere, whether light and common matter are not convertable into each other? That philosopher, "adopting the idea that the phenomena of sensible heat depend upon the vibrations of the particles of bodies, supposes that a certain intensity of vibrations may send off particles into free space, and that particles in rapid motion in right lines, in losing their own motion, communicate a vibratory motion to the particles of terrestrial bodies." The idea of the *combinations* of light and heat, adopted by many authors, Sir H. Davy considers as merely hypothetical; and he further supposes that many of the phenomena, which have been attributed to combined light, are electrical, or merely the effect of the ignition of the substances.

"The later investigations on light teach us that there is yet much to learn with respect to the affections and motions of radiant matter; and this subject, when fully understood, promises to connect together chemical and mechanical science, and to offer new and more comprehensive views of the corpuscular arrangements of matter."

The third division, treats of empyreal undecompounded substances, or undecompounded substances that support combustion and their combination with each other.

In this are described the properties of oxygen gas, and chlorine or oxi-muriatic gas and their combination with each other in the form of Eucloric gas bodies, the qualities and phenomena of which were noticed in the last number of our journal, in the paper on the results of Sir H. Davy's discoveries. These are evolved at the positive surface of the voltaic circuit.

The fourth division includes an account of undecompounded inflammable or acidiferous substances, not metallic, and their binary combinations with oxygene and chlorine or with each other. These are six in number, hydrogene, azote, sulphur, phosphorus, carbon and boracium or boron. These are separated at the negative surface in voltaic combinations, and in their electrical relations, as well as chemical powers are opposed to oxygene and chlorine.

The fifth division includes the metals; their primary combinations with undecompounded bodies and with each other. Under this head are ranked all the newly discovered bases of the alkalies and earths.

In division sixth are mentioned the properties of some substances, the nature of which is not yet certainly known. These are the fluoric principle or the basis of fluoric acid and the amalgam procured from ammoniacal compounds, by subjecting quicksilver and the salts of ammonia to the powers of the voltaic battery.

The last division is appropriated to observations on the analogies between the undecompounded substances; speculations concerning their nature; on the modes of separating them, and on the relations of their compounds.

"As far as our knowledge of the nature of compound bodies has extended, analogy of properties is connected with analogy of composition."

"We know nothing of the true elements belonging to nature; but as far as we can reason from the relations of the properties of matter, hydrogene is the substance which approaches nearest to what the elements may be supposed to be. It has energetic powers of combination, its parts are highly repulsive as to each other, and attractive of the particles of other matter; it enters into combination in a quantity very much smaller than any other substance, and in this respect it is approached by no known body."

Some new facts are brought forward in favour of the hypothesis, advanced by the author at an early period of his investigations, that hydrogen may be a component part of all inflammable substances; and he more than once adverts to the "sublime chemical speculation, sanctioned by the authority of Hooke, Newton and Boscovitch, that the forms of natural bodies may depend on different arrangements of the same particles of matter."

We regret that the limits prescribed will not allow us to detail more at large many of the facts and opinions contained in this volume. It is a profound and philosophical view of the science of chemistry. It contains much novel matter and many original observations, although in some parts the author is speculative and hypothetical. It will be read with much interest by all those who have cultivated a taste for chemistry; although it is by no means calculated for one who is just entering on the study of this extensive science.

ARTICLE XII.

An Essay on the Uterine Hæmorrhage, which precedes the delivery of the full grown fœtus. Illustrated with cases, by Edward Rigby, Esq. F. L. S. &c. &c. &c. Fifth Edition. London, printed for J. Johnson, & Co. 72 St. Paul's Church Yard. 1811.

The perusal of this work is attended with a degree of satisfaction and advantage, which place it considerably above the level of ordinary modern publications. We are confident that the practitioner who becomes acquainted with it, will feel that he has enlarged his stock of useful information, and has learned much, both to direct him in the management of the peculiar cases which it contemplates, and to facilitate the application of his previous knowledge.

Innovations in medicine are dangerous in proportion as they acquire popularity and general use, before their merits can have been sufficiently tested by experience. But the work of Mr. Rigby, the first edition of which was published in 1789, has been extant for a sufficient length of time, to have had its pretensions weighed, and its proper standing assigned to it in the public estimation. The fifth edition which is now before us, strongly confirms the authority of the preceding ones, by its additional observations, and by an increased list of cases, bearing every mark of accuracy and truth. It would seem also that an additional object of the volume, was to repel an insinuation most ungenerously urged against Mr. Rigby's first edition, viz. that he had stolen his opinions from a French work, published in 1751, by M. Levret, a celebrated accoucher of Paris.

We took up M. Levret's work on Midwifery, and found in it a chapter with this title. *Du placenta attache' sur l' orifice de la matrice.* From this title it was very natural to conclude, that a very strong coincidence would be found not only in the details, but also in the verbal expression of such details, for this will be always more or less apt to occur in technical subjects ; and accordingly it was found to be actually the case here. It did not at all, however, diminish our confidence in the declarations of Mr. Rigby, with regard to the originality of his work, but on the contrary, we were highly pleased that so important a subject, to which Mr. Rigby appears to have bestowed great attention, the French professor in a very elaborate work should have devoted a chapter, and that his views should have so strongly coincided with those of our author. M. Levret's work may not be in the hands of all our readers, and we shall copy from him some short paragraphs which contain an account of those characteristics by which hæmorrhagy, under circumstances now in consideration, may be distinguished from that which the uterus is also exposed to. We do not mean to collate them with parallels from Mr. Rigby, but present them in as simple an English dress as they will wear.

1st. There is sometimes found a difficulty in recognising the mouth of the womb, although it may be in some degree within reach of the finger.

2d. There is generally found in the vagina, a large quantity of coagula, a part of which is attached at the bottom of this canal, to a tumour soft, fleshy, and as it were pulpous. There is none of it adherent but at this place.

3d. The flow of blood is increased when the coagula adhering to the tumour are detached.

4th. If with the end of the finger this tumour be examined, it appears as if it touched the head of a small cauliflower, and you perceive in it those anfractuosities (*anfractuosités*) which are proper and natural to it.

5th. If with the finger it be attempted to ascertain the circumference of this tumour, you will find the orifice of the womb, toward the posterior part, which is as it were strangulated (*comme étranglé.*)

6th. If it be attempted to pass a finger between the tumour and the orifice of the womb, it cannot be affected without violence and a separation of the tumour at the part where the attempt is made, or indeed if the finger find any part of the orifice of the womb to be free, it will not be found so throughout.

7th. Finally, if the woman have labour pain, as is usual in similar circumstances, it is during a pain that the blood flows most abundantly; and during the intervals of the pains the discharge lessens; instead of which when the blood comes from any other part of the womb than its orifice, the discharge is most violent during the intervals of pains, and ceases entirely to flow when the pains have commenced and continue.

It is more especially to this last paragraph (7th) that we would ask particular attention, for it in a very few words gives us a rule of the last importance in determining the cause of the hæmorrhage, which it may be our duty to encounter. There is no parade of reasoning, to account for the fact, that *pains* should increase and keep up the flow of blood; a moment's reflection on the uterine action, the developement of the neck and of the os uteri, preliminary to and accompanying labour, and the situation of the placenta under supposition, viz. *over the os uteri*, explains most satisfactorily this fact which so strikingly distinguishes this from all other uterine hæmorrhage. It was from four very unequivocal cases, that Levret arrived at these deductions. But Mr. Portal in his 39, 41, 43, 51, 69 and 79th observations, clearly discovers that this situation of the placenta had occurred in his practice, and from the value of these and all Portal's cases, we would recommend his work to our readers.

Amand, La Motte, and many others had remarked the same thing, but accounted for the fact, by supposing that the placenta was originally situated properly at the fundus uteri, or sides, but had been separated by labour pains, accidents, &c. and had fallen into the neck of the womb; but the phenomena attending that occurrence, if it can happen, would very readily distinguish it from that now under review.

Mr. Rigby's object is to treat of those hæmorrhages which precede the birth of the full grown fœtus. There are circumstances peculiarly embarrassing attending these cases.

We are to determine whether it be best to take the case out of the hands of nature and substitute the means of art; and if we determine this question, the result of the case is still very doubtful, for we are in doubt as to the quantity of blood the woman may have lost, and if we could really ascertain this, we are ignorant how much a woman may loose without manifest danger of life, and in many cases, it may be remarked as the climax of embarrassment, the practitioner may be totally ignorant of the cause of the hæmorrhage. We are in the habit of referring it to a variety of causes, and it most unquestionably does occur under a variety of circumstances. Thus, it may attend a very early abortion; it may be the consequence of accident at a later period, and it may precede or follow labour at the full time. The peculiarities of constitution may predispose to it, as great determination to the uterine system, or a constitutional debility, which shall render the action of gestation feeble and unhealthy, and the consequences, hærmorrhage, &c. all these circumstances and their effects, of course, involve a variety of treatment.

Hærmorrhage, however, may as stated above, be the consequence of merely an unusual location of some one of the uterine contents, e. g. the placenta. In all other respects the most favourable prognostic might have been made of the case, from the general health of the patient, and the ease with which the action of gestation has been performed.

The floodings which occur in very early gestation, may in general, be checked by such means as are usually resorted to in suppressing common hæmorrhage, and the woman may go her full time; but if they increase, this will seldom amount to a degree dangerous, before the small fœtus and secundines will be separated, and thrown off; when the uterus will contract, and a natural suppression will thus gradually take place. Mr. Rigby conceives it impossible in these cases, from the small size of the uterus to render any manual assistance, and that it is totally unnecessary.

The object of his work, and the means of accomplishing it are thus stated by our author: "To remove the uncertainty and embarrassment, which have hitherto attended the practice in these cases, (viz. of hæmorrhage) and determine on more fixed and rational principles, when it is safe to wait for nature's endeavours to expel the child, and when it is absolutely necessary to bring it away by art, would therefore, certainly be an important improvement in midwifery."

To this end two things appear indispensably necessary, first, to know why in cases, which in their commencement and progress have remarkably resembled each other, and the circumstances of the age and constitution of the patients strikingly the same; that in one case the discharge shall be suspended by the usual means for suppressing hæmorrhage, and the unassisted efforts of nature safely deliver the woman; and in the other, the greatest danger shall attend the discharge, that it shall increase, and turning the child become absolutely necessary; and secondly, that we shall attempt this as soon as possible, that we may determine at once whether it will be safe to trust the suppression to the usual remedies, or proceed at once to delivery.

The proximate cause of uterine hæmorrhage at the period of gestation now under consideration, is the total or partial separation of the placenta from its attachment to the uterus. The danger of the hæmorrhage greatly depends on the part of the uterus to which the placenta was attached. Now it may be to a part which during labour shall undergo no change by dilatation, or it may be to a part the developement of which, or whose dilation is absolutely necessary to the delivery. The parts first supposed are the fundus and sides, the last, the collum, or os uteri.

Hæmorrhage from this organ may occur even in the most favourable situation of the placenta, "violence done to the uterus by blows or falls, some laxity of the uterine vessels, from badness of habit, or fever, some influence of the passions of the mind suddenly excited, as fear, anger, &c." may affect its separation before the labour has advanced to its completion, and hæmorrhage will be its consequence. From these two different causes of hæmorrhage, Mr. Rigby considers its occurrence, *accidental* and *unavoidable*. In the first, such means may be resorted to as will suspend it, and the labour be accomplished before it occurs again; in the second, although the usual means may suspend the flooding, and the progress of the labour, still when pains again occur, the flooding will again burst forth, and increase in violence as the labour advances; and this, if left to itself, will not be accomplished; the woman dying before the delivery. A striking coincidence with the last paragraph from Levret, will be observed in this part of our author's work. Admitting then, floodings to depend on such different causes, and that they require a treatment so very different, we cannot be at a loss when such occur to us, and we have discovered by the causes from which they proceed, how to act. In the one case, nature and the use of proper remedies, effecting the suppression and delivery, whilst in the other, the only prospect of safety is to be placed in turning the child, and if this last be unsuccessful, it is rather to be attributed to its having been too long delayed, than to any real danger connected with its proper performance; and if it be delayed till the woman be well nigh exhausted, she may die under the operation; or if not, the uterus may not possess vigour enough to contract itself when emptied, and the hæmorrhage thus continue till life be extinguished.

There is one circumstance to which Mr. Rigby has not very particularly adverted, and which may be of some practical use to attend to, viz. the mere contraction of the uterus in suspending hæmorrhage, and the various degrees in which this may act, according to the situation or place of attachment of the placenta. That hæmorrhage will be most checked which comes from vessels whose orifices will be soonest and most perfectly closed by the contraction; thus, if it be separated from the fundus, the continuance of labour pains, the rupture of the membranes, and the delivery, will be a series of actions the most favourable for the woman, and this fact is supported by the last paragraph from Levret. But in the case where the placenta is attached to the collum, or over the os uteri, though forcible delivery be effected, still the contraction commencing at the fundus, and gradually reaching the neck and orifice, the hæmorrhage goes on, not only during the delivery, and while the greatest separation is taking place, but there is great danger from after flooding, till contraction has suspended it; the practical inference from this, the importance of early assistance, we conceive gains additional weight, as it will leave the woman still better to bear any after flooding.

A knowledge of the true causes that produce floodings, will give us all the information which Mr. Rigby considers as the *first* requisite towards an improvement in the practice of midwifery. The *second* is to know in the beginning of the discharge, whether it be produced by the placenta being situated on the os uteri or not. We shall now proceed to this part of the work. Various causes of uterine hæmorrhage have been mentioned, and the occurrence has been considered, finally, as *accidental and unavoidable*; the last one is our more particular object, and this may perhaps be considered in some measure distinguished from the other, from the circumstance of the time or period of gestation at which it occurs. When we find, therefore, hæmorrhage occurring at the end of gestation, or just after the commencement of labour, we should be inclined to think it rather the consequence of the peculiar *attachment* of the placenta, now under consideration, than to its *detachment* from its more usual situations, whether in consequence of fever, fright, blows, or any other such cause; but says Mr. Rigby, "the only certain knowledge respecting its situation, is to be derived from an examination of the uterus by the *touch*." The method of examination is detailed, and we are told not to be satisfied with the mere introduction of a finger into the vagina, but the whole hand is to be carefully introduced and one finger insinuated into the uterus, and "if the placenta be attached as supposed, it will be immediately felt by the finger, and may be distinguished from the membranes by its greater thickness, and from coagula of blood, by the irregularity and roughness of its interior surface, which will then present to the finger. Another important direction is, that if the hæmorrhage occur at the very beginning of the labour, and it be impossible, as perhaps it may *then* be, to introduce the hand per vaginam, we are to wait, till such relaxation takes place, in consequence of the advancement of the labour, or the loss of blood, as will render the examination practicable, and to wait in such cases, is far better than to attempt the operation, by what will turn out most probably to be an useless violence; while this delay is made *we are never to leave the patient.*

After having become acquainted with the cause of the hæmorrhage, and knowing its danger, and also feeling convinced that the only hopes of safety are to be placed in a "timely removal of the child," it becomes our duty to resort to the operation. Another very important caution is found in this part of the work, viz. we may perform the operation of turning *too soon* as well as too late. "It becomes then necessary, to endeavour to ascertain with a degree of accuracy the precise time when we may proceed to deliver, without fear of incurring the ill effects, either of precipitancy or delay."

The dilatation of the os uteri to the size of a shilling or half crown has been assumed, with good reason too, as a circumstance which will warrant the operation of turning. But, says Mr. R. a dilatation to this degree may not take place at all, even when the woman is dying from loss of blood. Now this may be the consequence of faintness, produced by the loss of a great deal of blood, and that in some cases very suddenly lost, that though the uterus be totally relaxed, and might be opened with the most gentle efforts, nature is unable to make them; and should they be made, the attachment of the placenta to the interal surface of the mouth of the womb, counteracts their influence and thereby hinders its giving way to a power which would otherwise, probably, very easily open it.

We are not only then to know if the os uteri be dilated, but to know also if it be *capable* of *dilatation*, and when we have learned this we possess a key to the only safe practice in one of the most dangerous situations a parturient woman can be thrown into; and to Mr. Rigby we are indebted for a most simple rule by which this most important fact may be ascertained. "If the womb readily give way, and the hand pass with ease, we may be certain no harm can follow, and may on that account prosecute the turning; but if on the contrary, there immediately come on a contraction of the os uteri, that in a purse-like manner tightly surrounds the fingers, it will prove difficult; and we ought therefore to desist, and wait till the part be more relaxed by pain or discharge, as difficulty in these circumstances, must certainly, with respect to the operation, be the truest criterion of danger." This contraction is a very favourable circumstance; it evinces considerable strength in the woman, and that we may wait with safety; but notwithstanding the further relaxation is to be the consequence of a further loss of blood, it should be our endeavour to render this as gradual as possible, and seize the first opportunity that occurs to turn and deliver.

We are by no means, continues our author, to *leave the woman*, during *this* delay; the hæmorrhage may change from gentle oozing to an excessing flooding, and if the surgeon be not at hand, the woman may perish before he can arrive. After these remarks, for which the medical profession and society cannot be too grateful to Mr. Rigby, he goes on to make others on the hæmorrhages that may occur in earlier periods of gestation, and the treatment or conduct he has pursued with regard to them; our limits will not allow us to give even an outline of them, we must content ourselves with the inferences he has deduced.

"Were it admissible," says Mr. R. "to deduce practical inferences from these imperfect premises, we might conclude that, as the most material increase of the uterus does not take place until the end of the sixth month of pregnancy, an hæmorrhage before that period will seldom require artificial delivery, and after that period, should it become necessary, that it is probable the hand may then be admitted for that purpose." Again, "The events of these cases point out tolerably well the period of pregnancy beyond which artificial delivery is practicable; at least, the experience of them is surely sufficient on the one hand to encourage the surgeon to attempt delivery after the sixth month; and on the other, should he find it impracticable before that period, to make him hope that nature herself will be able to effect it." The greatest caution, the longest delay, (that is safe) are to be practised in these early cases, or the worst, nay, fatal consequences may be the result. Should a case occur, in which the uterus is too small to admit the hand, and the hæmorrhage threaten the life of the patient before abortion could take place, Mr. R. on the authority of Leroux, recommends the filling the vagina with lint, moistened with vinegar, which shall afford mechanical obstruction to the flow of blood, till the uterus be sufficiently dilated to allow artificial delivery, or until nature herself be able to accomplish it. After which follow the directions to be observed in turning, and which we have thought of sufficient value to quote at length:

"In introducing the hand for the purpose of turning, when the os uteri has been carefully dilated, if the separated part of the placenta be immediately presenting, it is best to endeavour to pass the finger through the substance of it, and by degrees with other fingers to enlarge the opening till the hand can get through it into the cavity of the uterus. The obvious reason for this is, that by this means no more of the placenta may be separated than is necessary for the introduction of the hand, and consequently that as little increase of bleeding as possible may be produced by the operation; but if it be impracticable, as I have more than once found it, and it must ever be when the middle of the placenta presents to the hand from the thickness of it near the funis, it must be carefully separated from the uterus on one side, and the hand passed till it gets to the membranes; which being easily broken, it is admitted into the bag, the floating fœtus is turned, and the delivery finished, as in preternatural positions of the child; except, that in this case the extraction should be more slow, that the uterus may not be unable to contract, by being too suddenly emptied; a moderate pressure from the hand of an assistant upon the abdomen, as the child is coming away, will, likewise be of use to assist the contraction. The placenta being at the os uteri, and being still more separated by the introduction of the hand, commonly comes away immediately; but if a part of it should remain adhering, and the discharge continue, it should be carefully removed; and as it is near, this may very easily be done.

"If on the contrary, it be clear from a careful examination of the uterus, made in the way above mentioned, that the placenta is not at the mouth of it, and that the coming on or increase of labour will not of necessity increase the discharge, provided it be not very profuse, (for let it be remembered that I am supposing the examination to be made early, and before any very considerable quantity of blood has been lost) it certainly will be proper to wait for the natural pains, and in the mean time, to use such methods as are likely to restrain the flooding, which are, admitting a free circulation of cool air into the room, keeping the patient in an horizontal posture, giving her anodynes, &c. and supplying her frequently with such cool and simple nutritious drinks as will support her without quickening the circulation."

We recollected while stating the practice of filling the vagina with lint, or " plugging the vagina as it has been called, which Mr. R. quotes from M. Leroux, that a celebrated lecturer on midwifery in Scotland opposes the practice; but his objections being chiefly levelled against it when resorted to in hæmorrhages after the *delivery* of the fœtus, when considerably advanced towards its full time, or at its full time, they do not apply in the cases now under consideration, viz. those in which the size of the uterus does not admit artificial delivery, and especially where the waters have not come away; and if our author's opinion be correct, that the arteries of the uterus, under the supposed circumstances, do not contract, and in this that they differ very essentially from the divided arteries, and that the uterus can have no agency in suppressing the hæmorrhage, for its contents are by the supposition not evacuated, and its contractions are found to increase the hæmorrhage, it would seem that the only method by which the flooding can be checked is by the formation of coagula, which being retained by plugging on the open mouths of the vessels, will close them. If this then be true, his remarks on the use of internal astringents are also very correct, viz. that as they most universally increase the circulation, the chance of coagula forming is very much diminished by their use, and of course, that they should be avoided. We regret our limits oblige us to be so concise on this part of the work. Some observations are made on those floodings which accompany a separation of the placenta from any other part of the uterus than the collum, or even its mouth. It has been the practice, according to Mr. R. in these cases to wait for the natural powers to effect the delivery; this is farther sanctioned by his experience; but should the woman be found to be sinking under the discharge, should her life appear to be in danger, we are to resort to turning as the only means of saving the woman.

Mr. R. knows no sufficient reason why a patient should be consigned to death, without attempting what art can do, though we may be called in when there is apparently not the least ground for hope. If life remains, we should act, and we may save life. "I know there are arguments to be used (says Mr. R.) which may seem to justify a surgeon's relinquishing his patient under such melancholy circumstances; that, as people so frequently judge by the event only, he may incur blame, and his reputation undeservedly suffer, if it terminate badly (viz. the case under consideration) as it is most likely to do. These may be tolerable arguments in trade, but they are very unjustifiable ones in morals, which direct us always to do what is in itself right, independent of the opinion of the world, and the consequences that may follow it."

The work closes with details of 106 cases of uterine hæmorrhage, of the different species which occur in practice. The methods of treatment in all of them are also detailed. In those cases in which the flooding occurred in consequence of the separation of the placenta from any other part than over the orifice of the womb, or to the collum, the mode of treatment he recommends is that of Puzos, viz. rupturing the membranes as soon as they can be felt; the consequence is such a contraction of the uterus, as is sufficient in most cases to stop the hæmorrhage till the child is delivered, when the complete contraction entirely suppresses it. Sometimes he found it necessary, however, for the safety of the woman, to introduce his hand, bring down the feet and deliver.

The reputation of Mr. Rigby's work is so well established, that perhaps little can be added to it by our commendation, but we cannot leave it without again declaring ourselves deeply indebted to its author. He has furnished us with the best resources in a most desperate case, and convinced us that one fact is of more worth than a thousand hypotheses.

ARTICLE XIII.

Histoire des arbres forestiers de L'Amérique Septentrionale, considérés principalement sous les rapports de leur usage dans les arts et de leur introduction dans le commerce..... Par. Fs. Andre Michaux. Tomes I. II. Paris. 1810, 1812.

History of the Forest trees of North America, considered chiefly with regard to their use in the arts, and their introduction into commerce, by F. A. Michaux.

The scientific world are not unacquainted with the labours and merits of Andre Michaux, author of the Flora Boreali-Americana, and the History of North American Oaks. The intrepidity and perseverance of this distinguished botanist are of a character which few have surpassed. During eighteen years of his life he became a voluntary exile from his native country in the cause of science. Six years were spent by him in Persia, and twelve in the various latitudes of North America, from Florida to Hudson's bay. On his return to France, he commenced the publication of his works, but finding his ardour for travelling undiminished, he soon determined to associate himself with the famous but unfortunate expedition of captain Baudin, then about sailing for New Holland. Having left to his son the task of completing his unfinished works, he embarked in company with a number of *savans*, many of whose lives were to become the forfeit of their zeal. Michaux left the expedition at the Isle of France, for the purpose of exploring the natural productions of Madagascar. After arriving at this island he commenced his researches with such activity and disregard to personal safety, that his life was soon a sacrifice to the malignant fever of the climate. In his own country the administration of the Museum of Natural History paid ample tribute to his merits, and a bust was erected to perpetuate his memory.

Francis Andre Michaux, son of the foregoing, and author of the present work, accompanied his father to the United

States, and after his death made two voyages to this country in 1802 and 1806. He traversed the atlantic states from the District of Maine to the State of Georgia, and made, besides, a number of distant excursions into the interior, to the sources of the Kennebec, to the Lakes, to the Ohio, and to the heads of Savannah river. The primary object of these travels was to investigate and describe the productions of the American forest, and to introduce into France such trees as promised to be valuable from the texture and quality of their wood, or from their rapid and vigorous vegetation. A comparative estimate of the French and American forests given in the introduction to this work, will shew that this expedition was not without importance in its objects, although to Americans who have not yet learned to appreciate their forests, by the want of them, it may seem a superfluous enterprize *in silvas ferre lignum*. The number of trees which in America attain a height greater than thirty feet, observed and proposed to be described by Michaux himself, in one hundred and thirty seven, of which ninety five are employed in the arts. In France, only thirty-seven species are found of this elevation, of which eighteen constitute the forests, and only seven are used in the construction of houses or ships. The great balance in favour of the United States, rendered obvious the utility of ascertaining and introducing into the old continent, such as were most valuable of this extensive number. To this end M. Michaux not only examined the American trees in regard to their situation, growth and botanical characters, but he also industriously visited the ship yards and work shops of mechanics, and every place where information was to be obtained, relative to the use and appropriation of the various productions of the forest in the arts, in commerce, and in domestic economy. The utility of researches of this kind is not confined to the country where trees are to be introduced, but applies in a peculiar manner to that in which they are indigenous, and in which the preservation of valuable trees, must in a few years become an object of the most essential importance. In Europe, says M. Michaux, the great body of the forests is in the hands of government, who watch over their preservation with all the solicitude, which necessity imperiously demands; they having learnt from experience that no dependence is to be placed on supplying public exigences from woods appertaining to private individuals. In America, on the contrary, neither the federal government nor those of the states interest themselves in the preservation of their forests. The consequence is a frightful destruction of them which increases in proportion as the population extends. Its effects are already felt in principal cities, where complaints are made of the dearness of fuel and the scarcity of timber. At the present day various oaks of inferior quality are substituted in the work shops for white oak, and in a few years the precious live oak, so valuable in ship building, will scarcely be found in the islands of Georgia.

In the prosecution of his undertaking M. Michaux has limited himself to the description of such trees only as were examined by his father and himself. His descriptions are accompanied with very accurate and elegantly coloured engravings, of the various species described in the work. The subjects are successively arranged in families, as the pines, the oaks, the maples, &c.

The genus *pinus* of Linnæus, Michaux has divided after the manner of Tournefort and Jussieu into the genera *pinus* and *abies*, the *pines* and *firs;* which he chooses to distinguish from each other by the disposition of their leaves, those of the pines being collected in small fascicles commonly inserted in sheaths, while those of the firs are shorter and attached to the sides of the branches. Of the family of pines he has described and represented ten species, of the firs, four. Among these the most interesting are the *Pinus Australis, the long-leaved or southern pine, and the Pinus Strobus, or white pine. The former furnishes the turpentine, tar, and rosin of the southern states, the latter the valuable lumber of the north.

It is well known, that the southern pitch pine occupies extensive tracts of country in the southern states, known by the name of *pine barrens*. These, according to our author commence at a short distance from Norfolk, in Virginia, and extend south quite to Florida, a distance of 250 leagues. The trees which constitute these forests are valuable in several points of view. According to M. Michaux, in the Carolinas, Georgia and the Floridas, four fifths of the houses are constructed, with the exception of their roofs, from the southern pine. It is extensively used in ship building, and is the only kind of pine exported from the southern states to England or the West-Indies. In addition to its timber, this tree furnishes nearly all the resinous substances exported from the United States, such as tar, pitch, turpentine, rosin, &c. The pitch pine of the northern states *(pinus rigida)* is too thinly scattered, or too difficult of access to afford any considerable quantity of these articles.

---

* Pinus Palustris of Linnæus.

The process of procuring tar, &c. from the pinus australis, is described with length and minuteness.

In addition to the consumption of this valuable tree, an immense destruction is sometimes occasioned by the ravages of insects, so that very large tracts of country become in a short time covered with dead trees.

The white pine (pinus strobus) of which the District of Maine furnishes the largest portion, is considered by the writer as the most interesting of American pines. No species is so extensively employed or has its wood appropriated to such a variety of uses. The value and uses of this kind of wood as also the mode of felling the trees and transporting them down the rivers in the eastern country, are too well known to authorize our quoting them.

Of the Walnuts, or Hickories, M. Michaux has described ten species as indigenous in the United States. A particular description of all these is followed by a *résumé* giving a general view of the utility and application of their wood. In the light of fuel, he observes, they contain a large proportion of combustible matter in a small compass, so that while burning they produce an intense heat, and leave behind a heavy compact coal, which remains long on fire. There does not exist, says he, in the same latitudes in Europe or America, any tree to be compared with the hickory on this account; at least, this is the opinion of all Europeans who have visited the United States. He recommends in a particular manner the Juglans squamosa or shell bark, the J. porcina or pig nut, and the J. olivæformis or pacane nut of the Illinois country, as meriting introduction into the forests of Europe.

The large and important genus of Oaks had been ably investigated and described by the elder Michaux, in his history of them, published in 1801. The son has adopted the plan of that work, with some variations and additions. He has suppressed two species of his father; of one of which he doubted the existence, and the other he believes to be only a duplicate. Some new species are added, and several of the figures rendered more exact. But the principal advantage of this work over the *Histoire des Chênes* consists in the researches made into the value and economical use of the oaks, their introduction into the arts and commerce, and the interest which their cultivation may offer to Europeans or Americans.

The number of oaks treated of in the present work is twenty-six. These are divided into two sections, according as their fructification is annual or biennial. The first division is most valuable for its wood, with the single exception of the quercus virens or live oak, which belongs to the second.

Some curious facts are mentioned relative to the gradual enlargement of the knowledge of this genus. The third edition of the Species Plantarum, published in 1774, contained only 14 species of oaks. Of these, five were natives of the new world. In Willdenow's edition, published in 1805, the number of American species is increased to 44. Sixteen of these were observed by Humboldt and Bonpland in Old Mexico, and twenty-six by the two Michaux in the United States and the adjacent territory. The above 44 species are all found between the 20th and 48th degrees of north latitude. In the old continent, on the contrary, only 30 species are found in both northern and southern hemispheres, beginning at 60° north. A comparison of this sort is greatly in favour of the American forest.

Our opportunity does not allow a particular consideration of the comparative value of the different species of oak. The Quercus alba, or white oak, and Q. virens or live oak, are well known for the superior quality of their timber. In tanning, their bark is highly esteemed, as well as that of the Quercus falcata or Spanish oak, the Q. tinctoria, or black oak, and the Q. prinus monticola or rock chesnut oak. The author makes frequent and interesting recurrence to the wasteful extermination and probable disappearance of many of our most valuable species.

Of the family of Betulæ or birches, which Michaux thinks of considerable importance in the cold regions where they abound, he has described five species, the B. papyracea, — populifolia, — rubra, — lenta and — lutea. To us the genus offers very little interest beyond birch bark canoes.

The next subjects of representation are two Chesnuts and two Beeches. These are followed by the Chamærops palmetto, the Ilex opaca and Diospyros Virginiana.

Of the Maples, we are presented with the Acer eriocarpum, — rubrum, — saccharinum, — nigrum, — striatum and — negundo. Two other American species, the Acer montanum, and A. coccineum, are omitted from their small size. The process of making sugar is detailed at length.

The Nyssa grandidentata, — capitata, — sylvatica and — aquatica, with the Gymnocladus canadensis and Pinckneya pubens, close the second volume. The last mentioned tree produces a bitter bark, called the Georgia bark, and reputed to cure intermittents.

INTELLIGENCE.

SKETCHES

RELATIVE TO MEDICINE IN ITALY,

IN A LETTER FROM A GENTLEMAN ON A TOUR IN THAT COUNTRY, 1812.

AT Pavia, the residence of the celebrated M. Scarpa, is one of the best institutions I have visited. The Medical Professors at this place are ten in number; the Professorships are thirteen. They are as follow:

The Institutes of Surgery;
Clinical Medicine;
Botany;
Clinical Surgery; by SCARPA.
Human Anatomy; by FATTORI.
Operative Surgery; by SCARPA.
Pathology and Legal Medicine;
Chemistry; by BRUGNATELLI.
Materia Medica;
Physiology and Comparative Anatomy;
Pharmaceutic Chemistry; by MARABELLI.
Midwifery;

In addition to these are Professors in the following departments:

Agriculture;
Experimental Philosophy; by VOLTA and CONFIGLIACHI.
Natural History;
General Physics;

An extensive Library belongs to the School, and a splendid Museum of Anatomy and the various branches of Natural History. These are contained in a building much like the medical school in Paris, but twice as large. The hospital is an excellent one and under remarkably good management. The industry and superior advantages of the head of the institution, M. Scarpa, have contributed greatly to the benefit and improvement of the school. Scarpa was the pupil of Morgagni, and colleague with Fontana. At the early age of eighteen he was professor of anatomy at Modena. After this he was a pupil of William Hunter in London, and then came to settle in Pavia.—He has recently finished an improved gorget for the operation for the stone, one advantage of which is that it enters the bladder with very little force on the part of the operator. M. Scarpa will also publish an instrument for performing lithotomy above the pubis.

The professor of anatomy has just published his course. I saw a *fœtus in fœtu*, respecting which he has been writing a communication.

M. Brugnatelli, the professor of chemistry, is making a very large collection of concretions found in the animal body. To facilitate his object he has sent circular letters to the medical men in Italy, soliciting specimens of this nature. These applications have been very successful, if one may judge from the extent of his cabinet. He finds that in some of his specimens, the different layers of calculus are composed of essentially different principles. One of his specimens goes to show a great analogy between the animal and vegetable systems. He has a piece of rhubarb in which is imbedded a calcareous concretion in every respect resembling those found in animals, and appearing to have been gradually formed there.

M. Brugnatelli edites a large periodical work, a great part of which is taken up by the reports of his own labours.

Pisa is the seat of a medical school to which is attached a considerable hospital. But the establishment may with more propriety be said to belong to Florence, for the professors generally reside in that city and hold their examinations there. I think you have visited Fontana's cabinet of anatomical preparations in wax at Florence. It would be difficult to do justice to it in a description. A small collection of preserved animals and skeletons in comparative anatomy are annexed to it, also a very extensive collection of minerals and marine productions, and a hortus siccus well displayed. Within the grounds belonging to the establishment is a botanical garden possessing every convenience for the preservation of tender plants. The physical apparatus belonging to the academy is pretty extensive. The two globes of *copper* and *lead* with which the famous experiment of compression was made are preserved here, also the telescope with which Galileo made some of his most important discoveries.

Florence has two extensive and well established hospitals; one civil, the other military. The latter contains an unusual number of lunatics, many of whom have become so from the effects of the conscription, or of sudden and extreme poverty.

Observations on the Preparation of Soporific Medicines from common Garden Lettuce. (Lactuca sativa, Linn.) By Andrew Duncan, Sen. M. D. March 6, 1810.

Opium or the inspissated white juice which exudes from the capsule of the *papaver somniferum*, when wounded, has long been allowed to be one of the most useful articles employed in the alleviation or cure of diseases. The high encomium bestowed upon it by the illustrious Sydenham,* has been fully confirmed by the testimony of many succeeding practitioners. It is, however, much to be regretted, that there are individuals of the human species, with whom, from peculiarity of habit, opium seldom fails to produce distressing consequences. There are also conditions of disease, in which it may be very necessary to induce sleep, or allay pain, though circumstances occur by which the use of opium at that time is contraindicated. Hence, it has been long a desideratum in the healing art, to discover other powerful quieting medicines. For, although it is hardly to be expected, that an article will ever be discovered so extensively useful as opium, yet, a good soporific may be found, which, with some, will have less influence, either as exciting sickness at stomach, as occasioning confusion of head, or as inducing a state of constipation.

---

* "Ita necessarium est Opium, in hominis periti manu, ut sine illo, manca sit, ac claudicet medicina."—*Sydenham, de Dysenteria anni* 1670, *&c.*

It has been the opinion of many, that all the milky juices spontaneously exuding from wounded vegetables, possess somewhat of the same sedative power with the milky juice of the poppy. Few plants in Britain afford such milky juice more copiously than the common garden lettuce, the *Lactuca sativa* of Linnæus; and every one must have observed, that this juice, when spontaneously inspissated by the heat of the sun, on the wounded plant, soon assumes the dark colour of opium, while, at the same time, it possesses in a high degree the peculiar, and I may say, specific taste, which distinguishes that substance. And besides this, it is a well known fact, that lettuce was much used by the ancients as a soporific.

These circumstances led me to turn my thoughts on some method of collecting and preparing this substance, that I might try its effects in the practice of medicine. And, after several trials of different modes of preparation, what I shall now briefly describe are the best methods I have yet been able to discover.

I dedicated to this experiment, in my garden at St. Leonard's-hill, near Edinburgh, a small bed of that variety of lettuce, which is commonly known among gardeners by the name of *ice-lettuce.* I allowed the plants, about a hundred in number, to shoot up, till the top of the stem was about a foot above the surface of the ground. I then cut off about an inch from the top of each. The milky juice immediately began to rise above the wounded surface. Though then of a white appearance, it had next day formed a black, or dark-colored incrustation over the surface where the stem was cut off. I found it impossible to separate this by scraping, as is done by the milky juice exuding from the head of the poppy, when it has assumed the form of opium. I therefore cut off with a sharp knife a thin cross slice of the stem, to which the whole of the dark-colored opium-like matter adhered. This was thrown into a wide-mouthed phial, about half filled with weak spirit of wine, the *alcohol dilutum* of the Edinburgh Pharmacopœia, formed of equal parts of rectified spirit and water. By this menstruum, the whole black incrustation on the thin slice of the stalk was dissolved, and the spirit, as may readily be concluded, obtained both the colour and taste of the black incrustation.

Each of my plants, in consequence of the fresh wound inflicted by the removal of the thin cross slice, afforded a fresh incrustation every day. And, by throwing these into the phial, I soon obtained what I concluded to be a saturated solution of the exudation from the lettuce, or rather of the milky juice in its inspissated state. It was then strained off, to separate the pure solution completely from the thin slices of the stalk. To this strained spirit, which had nearly both the appearance and taste of the ordinary laudanum of the shops, I have given the name of *Solutio spirituosa succi spissati lactucæ.* From trials made with this solution, both on myself and others, I have no doubt that it is a powerful soporific. But to obtain a form in which it might be exhibited, with greater certainty as to the dose, I evaporated the spirit, and thus brought the residuum to a dry state. In this state, it has very much the appearance of the opium imported into Britain, particularly of that which is imported from Bengal, and which is a much softer substance than the Turkey opium. To this opium-like substance, I have given the name of *Lactucarium.* And, from some trials which I have made with it, when exhibited under the form of pills, it appears to me to be little inferior in soporific power to the opium which is brought from Bengal.

From the *lactucarium* thus obtained, I have formed a tincture, by dissolving it to the extent of one ounce, in twelve of weak spirit, which is the proportion of opium to spirit, in the liquid laudanum of the Edinburgh College. To this formula, I have given the name of *Tinctura lactucarii.* I consider it as the best formula I have yet been able to contrive, for obtaining the soporific and sedative powers of the lactuca sativa. And in different cases, I have, I think, seen manifest good effects from it, both as inducing sleep, allaying muscular action, and alleviating pain, the three great qualities of opium, which demonstrate it to be one of the most powerful sedatives. At present, however, I intend nothing more but to communicate to the Caledonian Horticultural Society a method of preparing a soporific medicine from common lettuce. For ascertaining more fully its medicinal effects, I am at present engaged in a series of trials, which may perhaps be likewise communicated to them.

Meanwhile it will afford me great satisfaction, if the above short account shall draw the attention of others, particularly of professional gardeners, to the same subject, and shall lead to the discovery of a better method of obtaining an useful medicine, from a plant so easily cultivated in every garden. Perhaps this important object might be somewhat forwarded, if the Caledonian Horticultural Society were to propose a prize, as a reward to the person who should be most successful in preparing a medicine from the milky juice of the lactuca. But it should be an essential condition of that prize, that he should send them not only a specimen of the substance prepared, but also an exact account of his method of preparing it.

In consequence of the above suggestion, the Caledonian Horticultural Society, at their quarterly meeting, on the 6th of March, 1810, agreed to propose a prize medal for each of the two following questions :

1. For the best method of preparing a soporific medicine from the inspissated white juice of the common garden lettuce. Specimens of the medicine to be produced.
2. For the best method of preparing opium in Britain, and the most advantageous manner of cultivating poppies for that purpose.

Further observations on the preparation of a soporific medicine from common garden lettuce. By Dr. Duncan, sen. November, 1811.

From the writings of the most eminent medical authors, it appears that garden lettuce was employed many centuries ago, for the purpose of procuring sleep. Galen, who flourished about the commencement of the Christian era, mentions it frequently in his writings. And it is said, that in an advanced period of life, when distressed for want of sleep, he used it with success.*

Among the moderns, this article has not been altogether neglected. Some observations and experiments have been made respecting its medical powers, both in England and in America, particularly by Dr. Cox, of Philadelphia, and Dr. George Pearson, of London.

About two years ago, I read to the Caledonian Horticultural Society, a short account of a method of preparing a soporific medicine from this plant. That account so far engaged the attention of that Society, that they proposed a prize medal, as an honorary reward, *for the best method of preparing a soporific medicine from the inspissated white juice of the common garden lettuce.*

I am happy to learn that some ingenious men have not been neglectful of this subject; and I would fain hope, that even our inconsiderable premium might lead to an honorable and useful competition. Among others, I have myself made farther trials with this vegetable, and I now present to the Society specimens of five different preparations of lettuce, all of which may, I think, be usefully employed in the practice of medicine.

Of the method of preparing the first, second and third, of these, viz. 1. The spiritous solution, or tincture of the dried juice; 2. The extract which I formerly styled *lactucarium*, and which is prepared by the evaporation of that solution or tincture; and, 3. The tincture of the lactucarium, which is prepared by dissolving that substance in diluted spirit of wine, I have nothing to add to what I formerly related to the Society. I may, however, observe, that from repeated trials, I have found all of them to be useful soporifics. But the preparation of these requires much time and great attention; and in preparing the lactucarium, it may be easily injured by the improper application of heat.

The two additional preparations, which I now present to the Society, the inspissated juice, and the tincture of the leaves of lettuce, may be made very easily, and at a very trifling expense. Although not so powerful as the solution or extract, prepared from the inspissated milky juice, yet they will, I am persuaded, be found upon trial, to be highly useful in the practice of medicine.

---

* "Hypnoticam esse jam cognoverunt veteres: Celsus, qui papaveri ideo adjungit; Galenus, qui sibi ipsi senex insomnis vesperi lactuca comesa somnum conciliavit." *Murray, Apparatus Medic.* vol. I. p. 109.

Method of preparing the inspissated juice of lettuce, or the succus spissatus lactucæ recentis. Take any quantity of the leaves and stalks of the lettuce, when the plant is nearly ready to flower; bruise them well, and, including them in a hempen bag, compress them strongly till they yield their juice. Let this juice be evaporated in flat vessels, heated with boiling water. Let the evaporation be continued till the expressed juice be reduced to the consistence of thick honey.

According to the trials which I have made, twelve pounds of lettuce will yield about eight ounces of inspissated juice.

Method of preparing the tincture of lettuce-leaves; or the tinctura foliorum siccatorum lactucæ sativæ. To one ounce of the dried leaves and stalks of the lettuce cut down, add eight ounces of the diluted alcohol of the Edinburgh pharmacopœia. Let the vessel containing this mixture, be kept for a week in a warm place, shaking it frequently. Let the liquor then be strained through paper, and kept for use. About fifty drops may be taken for a dose.

Additional observations on the lactuca, presented to the Caledonian Horticultural Society, by Dr. Duncan, sen. May 1, 1812.

In two former short communications to the Society, I have given an account of a method of preparing from the common garden lettuce different articles, which may, I am convinced, be employed with advantage in the practice of medicine. To these I have given the following names:

1. *Solutio vel tinctura succi spissati lactucæ*, prepared from the inspissated juice spontaneously exuding from the plant when wounded.

2. *Lactucarium*, an extract prepared by evaporating the above solution or tincture.

3. *Tinctura lactucarii*, prepared by dissolving the lactucarium in proof-spirit of wine.

4. *Succus spissatus lactucæ*, prepared by inspissating the expressed juice of the recent plant.

5. *Tinctura foliorum lactucæ*, prepared by extracting the active powers of the lettuce, from the leaves of the dried plant, by warm infusion in proof-spirit.

To my former observations I can now add, that during the course of last winter, I have made may trials of these articles, both in hospital and in private practice. I have particularly employed the first and the fourth of these preparations, in the clinical wards of the Royal Infirmary, where the effects were observed by many attentive and ingenious students. They have witnessed the benefit which may be derived from them in procuring sleep, in alleviating pain, and in allaying inordinate action, particularly troublesome cough. I am therefore not without hopes, that when the experiments I have made are more generally known, they may have the effect of calling the attention of other medical practitioners, and of some intelligent gardeners, to a subject, which, in my opinion, is of considerable importance. *Memoirs of the Caledonian Horticultural Society.*

Report of the National Vaccine Establishment;

Ordered, by the House of Commons, to be printed, 29th July, 1812.

TO THE RIGHT HON. RICHARD RYDER,
PRINCIPAL SECRETARY OF STATE, HOME DEPARTMENT, &c.

The Board of the National Vaccine Establishment have the honour of reporting to you, that during the year 1811, the surgeons appointed by their authority to the nine stations in London, have vaccinated 3,148 persons, and have distributed 23,794 charges of vaccine lymph to the public. The number vaccinated this year rather exceeds that of the year 1810, and the demand for lymph has been often so great, that it could not be immediately supplied.

They have great satisfaction in stating, that since the commencement of this establishment, not a single instance of the accession of Small Pox, after Vaccination, has occurred to any of the vaccinating surgeons of the nine stations.

The Board report, that they have been lately furnished with many satisfactory official documents from the naval and military departments of government, respecting the progress of Vaccination, and have likewise obtained some other authentic papers on the subject, containing much important information. They think it expedient to lay before you a summary of their contents.

It appears, that in consequence of an order from the Lords Commissioners of the Admiralty, Vaccination has been practised in the navy to a great extent; and although it has not been universally adopted, the mortality from the Small Pox, among seamen, is already greatly diminished.

In the army, the practice of Vaccination has been long established, by an order from the Commander in Chief, and its effects have been decidedly beneficial; for almost the only persons among the troops, who have lately been affected with Small Pox, have been either recruits, who had received the infection previous to their enlistment, or soldiers who had not been vaccinated, on the supposition of their having had the variolous disease. Thus, with a few exceptions, a disorder formerly so fatal to the troops, is now considered as nearly extinguished in the army.

By information transmitted to the Board, from their numerous correspondents in all parts of the country, it appears, that Vaccination is almost every where gaining ground, throughout the British dominions, though its progress is very different in different places; and it is found that the number of deaths from the Small Pox is uniformly decreasing, in proportion as Vaccination becomes more general, and the inoculation of the Small Pox declines.

The disappearance of the Small Pox from the island of Ceylon, was noticed in the report of last year; and the Board has now the pleasure of stating, from sources of authentic and satisfactory information, that, in consequence of Vaccination, this dreadful disease has, in no instance, lately occurred in the island of Anglesey, in the populous city of Newcastle-upon-Tyne, in the town of Petworth, or in the adjoining district.

Through the different counties of England, the practice of Vaccination is becoming general, and the Small Pox is gradually declining; and even in London, where the opposition to the new inoculation has been most violent, it is prevailing, and its salutary effects are becoming daily more evident. At present, by the best estimate we are able to make, it appears that nearly two-thirds of the children annually born in the metropolis, are vaccinated either by charitable institutions or private practitioners; and that the number of deaths by Small Pox has proportionably decreased. Previous to the discovery of Vaccination, the average number of deaths by Small Pox within the bills of mortality, was 2,000 annually; whereas the last year, only 751 persons have died of that disease, although the increase of population within the last ten years has been 133,139. The increase of population throughout Great Britain, in the same period of time, has been 1,609,000; and to to these augmentations the practice of Vaccination has probably much contributed.

The reports from the Cow Pox Institution in Dublin are of the most favourable nature, and furnish sufficient reason to believe, that since the introduction of the Vaccine preventive, the mortality from Small Pox has considerably declined in that city. The correspondence of the institution affords satisfactory evidence of the progressive increase of Vaccination throughout Ireland. In most of the principal towns of that kingdom, the poor have the advantage of gratuitous inoculation with Cow Pox, either at the hospitals, or at the houses of the physicians; and it is stated that among the higher ranks, Vaccination is universally adopted.

The accounts from Scotland, particularly those from the faculty at Glasgow, which have been transmitted to the Board, furnish evidence of the general and rapid increase of Vaccination in the northern part of the island, and give the most satisfactory proofs of the success and efficacy of the practice.

Notwithstanding the incontrovertible evidence of the very great advantages of Vaccination, it is much to be lamented that there are still some medical practitioners, though the number of them is comparatively small, who obstinately persist in disseminating by inoculation the contagion of the Small Pox, and who strenuously encourage and support, especially among the lower orders of the people, the prejudices against the new practice; rumours are industriously spread abroad, of deforming and loathsome diseases produced by this practice; and numerous mistatements of cases are published, of the occurrence of Small Pox after Vaccination. That in some instances the Small Pox has affected persons who have been most carefully vaccinated, is sufficiently established; nor ought we to be surprised at this, when we consider that the inoculation for the Small Pox sometimes fails, and that several cases may be produced, in which persons have been affected with the natural disease more than once in the course of life. The number of instances of Small Pox after Vaccination, however, is very small, and we may fairly presume, that in proportion as improvements are made in the practice, such occurrences will be still more rare.

The Board have infinite satisfaction in stating the two following important and decisive facts in proof of the efficacy and safety of Vaccination, viz. that in the cases which have come to their knowledge, the Small Pox, after Vaccination, with a very few exceptions, has been a mild disease; and that out of the many hundred thousand persons vaccinated, not a single well authenticated instance has been communicated to them, of the occurrence of a fatal Small Pox after Vaccination.

They cannot conclude their report, without adverting to the mischiefs which are daily arising from the diffusion of the fatal contagion of Small Pox in the community, in consequence of variolous inoculation, among the lower classes of the people, which constantly keeps up the contagion, and where it saves a single life, exposes numbers to a most dangerous disease. It is greatly to be wished that this evil could be checked, by such measures as government in its wisdom might judge proper to frame, in order to prevent the spreading of the Small Pox, and thus keeping up a continual source of infection in the heart of the metropolis.

The constant renewal of the contagion of Small Pox in this capital, which they so deeply lament, is strikingly contrasted with the advantages enjoyed by several of the other capitals of Europe, in consequence of the universal adoption of Vaccination by medical practitioners, seconded by the authority of government. The cities of Vienna and Milan, in which the mortality from Small Pox was formerly more considerable in proportion to their population than in London, have been for some time freed altogether from this destructive pest; the first for five, and the latter for eight years, according to the statements of Drs. De Carrio and Sacco. And in the city of Geneva, the Small Pox has been nearly extirpated. In Switzerland in general, but more particularly in Geneva, the extension of the blessings connected with Vaccination has, in a great degree, depended on the warm and active co-operation of the clergy, who were assiduous in recommending the practice to their parishioners from the pulpit, as well as promoting it by every other exertion in their power. Impressed with the strongest conviction of the great advantage which Vaccination would derive from a similar co-operation in this country, the Board formerly considered it as a part of their duty to address the bishops, for the purpose of soliciting their assistance in checking the ravages of the Small Pox, by rendering the benefits of the Vaccine Inoculation more extensively known.

The Board has great pleasure in stating, that the money granted by Parliament, during the last session, has been sufficient to defray the expences of the year 1811; and they are of opinion, that the same sum will be adequate to the expenditure of the current year.

FRANCIS MILMAN, President.

By order of the Board,
James Hervey, Register.

Leicester-square, March 9, 1812.

Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge; illustrated with copper plates. Published at London. 1812.

The first paper in this collection is *a Case of a Disease of the Chest, from a leaden Shot accidentally passing through the Glottis into the Trachea.* By John Mervin Nooth, M. D. F. R. S.

This case is instructive, in as far as it points out the obscurity in which the exciting causes of disease are frequently involved. The author, for two years, laboured under a violent affection of the chest, which at length had arisen to such a height as to threaten immediate death; in a violent paroxysm of coughing, he ejected a large leaden shot, and from this time his symptoms became alleviated, and he very soon got well. "Reflecting on the circumstances," he says, "which have been related, it occurred to me, that the complaints in my chest must have arisen from the shot, and that this substance must have passed unperceived through the glottis in the act of drinking. I can indeed now recollect, that previously to my experiencing any uneasiness in my chest, I was one day seized, immediately after drinking hastily the last glass of a bottle of wine, with a convulsive cough, which I at the time considered to be occasioned by a drop or two of the wine, that had, as it is usually said, gone the wrong way; and that for some days after the cough continued very troublesome.

"Had the ejection of the shot from the trachea not taken place, I should never perhaps have recalled to mind the circumstances which I have just related. I am, however, now convinced, that my pectoral complaint did arise from the accidental passing of a shot into the windpipe; and I shall always think it a very fortunate and a very extraordinary circumstance, that a case so serious as mine should terminate so favourably."

It is to be observed, this occurrence took place 13 years ago, and the communication was read to the society early in the year 1804.

ART. 2.—*On the Embalming of dead Bodies.* By Matthew Baillie, M. D. F. R. S. Fellow of the College of Physicians of London, and Honorary Fellow of the College of Physicians of Edinburgh.

The object of this paper is to describe a method of embalming dead bodies, which shall effectually preserve them from decay. The process here recommended is the result of some experiments made upon children, either still born, or who died soon after birth; but the same method of embalming, we are told, will be effectual, whatever may be the size of the body. Dr. Hunter's method of embalming, although effectual in preserving the body from decay, was extremely tedious, occupying many hours, and was attended with much unnecessary difficulty. The viscera were cut out, their vessels were tied up, and they were a second time injected; the same operation was also repeated in the remaining vessels of the body. These inconveniences are all obviated by the following improved method of Dr. Baillie.

"An injecting pipe was put into the umbilical vein, and the blood vessels of the whole body were well filled with the antiseptic fluid formerly mentioned, consisting of essential oil of turpentine, with a small portion of Venice turpentine dissolved in it, and well charged with vermilion. Had the children been older, or had the experiment been made upon a full grown body, the injecting pipe would have been put into one of the inguinal arteries, and all the vessels of the body would have been injected from it. This will form the only difference between the method of embalming a child newly born, and that of embalming a person of any age, after the umbilical vein is obliterated. It ought to be remarked, however, that when the vessels of the body, generally, have been injected from one of the inguinal arteries, a ligature should be immediately made upon this artery above the pipe, and that the pipe should afterwards be taken out, and put again into the same aperture of the artery, but directed towards the foot. The vessels of this limb should then be filled with the antiseptic fluid, a ligature should be made upon the artery under the pipe, and the pipe should be taken out. In this way the injection of the vessels of the body will be complete.

"When the body is of such a size, as to be capable of being readily put into a tub of warm water, for an hour previous to the injection of its vessels, there will be an advantage in doing it; because the antiseptic fluid will penetrate into minuter vessels of the skin, and give it a more florid colour. This, however, is not at all necessary for the preservation of the body. After the body has been injected, it should remain at rest for an hour or two, that the fluid may have time to settle. The thorax and abdomen should then be laid open, exactly in the same manner as they are, when a body is examined for the purpose of discovering any morbid appearances in these two cavities.

"An opening should next be made into the duodenum, about two or three inches distant from the pylorus, and a large injecting pipe inserted into it, with its direction towards the stomach. Water should be thrown through this pipe by a syringe, so as to wash clean the stomach, the œsophagus, the pharynx, the mouth, and the nostrils. The pipe should then be taken out, inserted into the same opening in the duodenum, but directed towards the intestines. Water should then be thrown in, to clean the small and great intestines.

"When this has been done, a ligature should be made upon the œsophagus at its upper extremity, and another ligature should be made upon the rectum, as low down in the pelvis as the reflexion of the peritonæum will allow. Camphorated spirits of wine should then be thrown in, by a pipe inserted into the opening in the duodenum, so as to distend moderately the small and the great intestines, the stomach, and the œsophagus. The pipe should now be withdrawn, and the opening in the duodenum closed by a strong ligature. A small opening should next be made in the trachea, almost immediately under the cricoid cartilage of the larynx; an injecting pipe should be put into it, and the air-cells of the lungs should be moderately filled with camphorated spirits of wine. The pipe should then be withdrawn.

"A ligature should next be made round the aorta, close to its origin, and the cavities of the heart should be laid open, for the reception of an antiseptic powder, the composition of which shall afterwards be described.

"The urinary bladder should then be squeezed, so as to be completely emptied, and should be laid open at its fundus. When this has been done, the surface of all the viscera of the thorax and abdomen, together with their parietes, should be washed with camphorated spirits of wine. Then all the interstices of the different viscera of the thorax and abdomen should be filled with an antiseptic powder, consisting of camphor, white resin and nitre, intimately mixed together. With this powder too the cavities of the heart and of the urinary bladder should be filled.* The proportion of these different ingredients to each other is not of much importance, as in the three children which I embalmed, it was different in each. Two parts of camphor, one of resin, and one of nitre, will probably be as good a proportion as any other. Some essential oil of rosemary, or lavender, or both, may then be sprinkled upon the surface of the powder. The oil will give an agreeable odour, but is not necessary for the preservation of the body. The body should then be very closely sewn up.

"The mouth, the nostrils, the passages of the external ears, the rectum, and the vagina, (if a female is embalmed) should be filled with the antiseptic powder already described. The humours of the eyes should next be let out, and the space between the eyes and the eye-lids should be filled with the antiseptic powder; after which the two eye-lids should be brought into close contact with each other. The body should then be rubbed over with some aromatic oil, as oil of rosemary or lavender. All the limbs and other parts are then to be put into the posture, in which they are to remain, upon a bed of Paris plaister, or any other absorbing substance."

---

* In two of the children, I opened the head at the anterior fontanel, took out a portion of the brain, and filled the cavity with the antiseptic powder. In the third child, I made no opening into the head at all, yet the head is perfectly preserved from decay. This operation is therefore unnecessary.

Dr. **Bateman** is preparing for publication, a short treatise on the Diseases of the Skin, according to the lucid arrangement devised by the late Dr. Willan, which is calculated to teach accuracy in the discrimination of the appearances of eruptive disorders, and to render the language, in this department of medicine, clear and definite.

Messrs. Longman and Co. have nearly ready for publication, Engravings from Specimens of Morbid Parts, preserved in Mr. Charles Bell's Collection, Windmill Street, and selected from the divisions inscribed Urethra, Vesica, Ren, Morbosa et Læsa, containing specimens of every disease which is attended with change of structure in these parts; and exhibiting the injuries from the Bougie, Catheter, Caustic, Trochar, and Lithotomy Knife, incautiously used. The work will be published in four fasciculi of ten plates each, in folio. The first and second fasciculus will contain specimens of diseased Urethra, and of the Canal injured by operations, with plans to direct the use of instruments. *New Med. and Phys. Journal.*

An Instance of the Obliteration of the Vena Cava Inferior. By James Wilson, Esq. F. R. S. and Lecturer on Anatomy.

The appearance here related occurred in the person of a young woman, about 20 years of age, who had a short time previously been delivered of a child. The peritoneum had undergone some inflammation, and the broad ligaments of the uterus were much thickened, and crowded with vessels; the liver was rather larger than usual, and a small abscess was found in the lobulus Spigelii which contained about an ounce of pus. The seat of the obliteration was immediately below the entrances of the three large venæ cavæ hepaticæ. A quantity of coagulable lymph, strongly adhering to the inside of the vein, had completely filled up its cavity from the emulgent veins downwards. The author was very desirous to ascertain with accuracy, the principal channels by which the blood, usually returned by the obliterated veins, had reached the heart, and he therefore prosecuted the dissection for that purpose; an account of which he has thus related.

"In attempting this, I found that the anastomosing branches of the veins on the sides and back part of the pelvis were much enlarged, as were also those between the vena saphæna major, and the branches accompanying the deep seated arteries passing through the foramen magnum ischii and the sciatic notch. Large communications were seen filled with fluid blood between the venæ pudicæ externæ, and the lower branches of the vena mesenterica inferior, which was enlarged to treble its usual size.

"The veins coming from the sinuses of the dura mater in the theca vertebralis, the sinuses themselves, and the communications between them and the sacral and lumbar veins were, by the blood contained in them, rendered very apparent. The enlarged branches of the lumbar veins formed such easy communications with each other, as to allow a passage through them to a very large quantity of blood, which entered the vena azygos by the anastomosing branches of its lower part. This vein, although three times larger than it commonly is, was without the varicose appearance described by Dr. Baillie. The emulgent and phrenic veins communicated largely with the lumbar veins, and the vena azygos.

"By means, therefore, of the increased size of the veins which have been mentioned, and the enlargement of their anastomosing branches, the blood which had formerly been returned by the trunk of the vena cava inferior, in consequence of the complete obliteration of this vessel from the liver downwards, reached the heart by a more circuitous course indeed, but with so little difficulty, that no real impediment was occasioned to the general circulation. The blood passed from the venæ pudicæ externæ into the inferior mesenteric veins, and from thence to the venæ portæ; it circulated afterwards through the liver, and entered the lower part of the right auricle of the heart, by the very small portion of the vena cava inferior, which remained pervious; viz. between the auricle and venæ cavæ hepaticæ. The remaining part, having reached the vena azygos, passed from it into the vena cava superior, and entered the same auricle from above."

This statement is followed by several judicious and useful remarks, from among which we extract the following, as well deserving the attention of our readers.

"I have met with no case, which tends more fully to shew the great resources of nature, in preserving life under circumstances, which, upon a superficial view, might be deemed incompatible with it. For I do not consider this extensive obliteration of the principal venous trunks as the cause of the woman's death; since the blood by another course passed so readily to the heart, as to have left no traces of its ever having accumulated in the vessels of the lower extremities, or of its ever having met with any considerable obstruction. Nor could the time which the enlargement of the new channels required have been great, as it does not appear that the return of blood through them, even at the commencement of the disease, was attended with any difficulty. I have, in several instances, had opportunities of observing, how quickly one or more anastomosing branches enlarge, when the motion of the blood in the vessel from which they sprang is stopped. This is very well seen after the division of those small arteries, which, in inflammation of the conjunctiva, are observed going to the cornea. One of the nearest anastomosing branches will soon be perceived to enlarge, and take a straight direction, so that in a very few hours, no appearance of the division will remain."

Description of the Eruption of the Souffrier Mountain, on Thursday Night, the 30th of April, 1812, in the Island of St. Vincent.

The Souffrier Mountain, the most northerly of the lofty chain running through the centre of this island, and the highest of the whole, as computed by the most accurate survey that has yet been taken, had for some time past indicated much disquietude; and from the extraordinary frequency and violence of earthquakes which occurred within the last year, portended some great movement or eruption. The apprehension, however, was not so immediate as to restrain curiosity, or to prevent repeated visits to the crater, which of late had been more numerous than at any former period, even up to Sunday the 26th of April; when several gentlemen ascended it, and remained there some time. Nothing unusual was then remarked, or any external difference observed, except rather a stronger emission of smoke from the interstices of the conical hill, at the bottom of the crater. To those who have not visited this romantic and wonderful spot, a slight description of it, as it lately stood, is previously necessary and indispensable to form any conception of it, and to the better understanding the account which follows; for no one living can expect to see it again in the perfection and beauty in which it was on Sunday, the 26th of April.

About 2000 feet from the level of the sea, (calculating from conjecture) on the south side of the mountain, and rather more than two thirds of its height, opens a circular chasm, somewhat exceeding half a mile in diameter, and between 4 or 500 hundred feet in depth; exactly in the centre of this capacious bowl, rose a conical hill, about 260 or 300 feet in height, and about 200 in diameter, richly covered and variegated with shrubs, brushwood and vines, above half way up, and for the remainder, powdered over with virgin sulphur to the top. From the fissures in the cone and interstices of the rocks, a thin white smoke was constantly emitted, occasionally tinged with a slight bluish flame. The precipitous sides of this magnificent amphitheatre were fringed with various evergreens and aromatic shrubs, flowers, and many Alpine plants. On the north and south sides of the base of the cone were two pieces of water, one perfectly pure and tasteless, the other strongly impregnated with sulphur and alum. This lonely and beautiful spot was rendered more enchanting by the singularly melodious notes of a bird, an inhabitant of these upper solitudes, and altogether unknown to the other parts of the island; hence principally called, or supposed to be invisible; though it certainly has been seen, and is a species of the merle.

A century had now elapsed since the last convulsion of the mountain, or since any other elements had disturbed the serenity of this wilderness, than those which are common to the tropical tempest. It apparently slumbered in primeval solitude and tranquillity, and from the luxuriant vegetation and growth of the forest which covered its sides from the base nearly to the summit, seemed to discountenance the fact, and falsify the records, of the ancient volcano. Such was the majestic, peaceful Souffrier, on the 27th of April; but we trod on "ignem repositum cineri doloso," and our imaginary safety was soon to be confounded by the sudden danger of devastation. Just as the plantation bells rang twelve at noon on Monday the 27th, an abrupt and dreadful crash from the mountain, with a severe concussion of the earth, and tremulous noise in the air, alarmed all around it. The resurrection of this fiery furnace was proclaimed in a moment by a vast column of thick, black, ropey smoke, like that of an immense glass-house, bursting forth at once, and mounting to the sky, showering down sand, with gritty calcined particles of earth and favilla mixed, on all below. This, driven before the wind towards Wallibon and Morne Ronde, darkened the air like a cataract of rain, and covered the bridges, woods, and cane-pieces with light grey coloured ashes, resembling snow when slightly covered by dust. As the eruption increased, this continual shower expanded, destroying every appearance of vegetation. At night a very considerable degree of ignition was observed on the lips of the crater; but it is not asserted, that there was as yet any visible ascension of flame. The same awful scene presented itself on Tuesday; the fall of favilla and calcined pebbles still increasing, and the compact, pitchy column from the crater rising perpendicularly to an immense height, with a noise at intervals like the muttering of distant thunder. On Wednesday the 29th, all these menacing symptoms of horror and combustion still gathered more thick and terrific for miles around the dismal and half obscured mountain. The prodigious column shot up with quicker motion, dilating as it rose like a balloon. The sun appeared in total eclipse, and shed a meridian twilight over us, that aggravated the wintry gloom of the scene, now completely powdered over with falling particles. It was evident that the crisis was as yet to come; that the burning fluid was struggling for a vent, and labouring to throw off the superincumbent strata and obstructions, which suppressed the ignivomous torrent. At night, it was manifest, that it had greatly disengaged itself from its burthen, by the appearance of fire flashing now and then, flaking above the mouth of the crater.

On Thursday, the memorable 30th of April, the reflexion of the rising sun on this majestic body of curling vapour was sublime beyond imagination; any comparison of the Glaciers, of the Andes, or Cordilleras with it, can but feebly convey an idea of the fleecy whiteness and brilliancy of this awful column of intermingled and wreathed smoke and clouds; it afterwards assumed a more sulphurous cast, like what we call thunder clouds, and in the course of the day, a ferruginous and sanguine appearance, with much livelier action in the ascent, a more extensive dilatation, as if almost freed from every obstruction; in the afternoon, the noise was incessent, and resembled the approach of thunder still nearer and nearer, with a vibration that affected the feelings and hearing; as yet, there were no convulsive motions, or sensible earthquake. Terror and consternation now seized all beholders. The Charraibs, settled at Morne Ronde, at the foot of the Souffrier, abandoned their houses, with their live stock and every thing they possessed, and fled precipitately towards town. The negroes became confused, forsook their work, looked up to the mountain, and as it shook, trembled, with the dread of what they could neither understand nor describe; the birds fell to the ground, overpowered with showers of favilla, unable to keep themselves on the wing; the cattle were starving for want of food, as not a blade of grass or a leaf was now to be found; the sea was much discoloured, but in no wise uncommonly agitated; and it is remarkable, that throughout the whole of this violent disturbance of the earth, it continued quite passive, and did not at any time sympathise with the agitation of the land. About four o'clock, P. M. the noise became more alarming, and just before sun-set, the clouds reflected a bright copper colour, suffused with fire. Scarcely had the day closed, when the flame burst at length pyramidically from the crater, through the mass of smoke; the rolling of the thunder became more awful and deafening; electric flashes quickly succeeded, attended with loud claps; and now, indeed, the hurlyburly began. Those only who have witnessed such a sight, can form any idea of the magnificence and variety of the lightning and electric flashes; some, forked zig-zag, playing across the perpendicular column of the crater; others, shooting upwards from the mouth, like rockets of the most dazzling lustre; others like shells, with their trailing fuses lying in different parabolas, with the most vivid scintillations from the dark sanguine column, which now seemed inflexible, and immoveable by the wind. Shortly after 7 P. M. the mighty caldron was seen to simmer, and the ebullition of lava to break out on the N. W. side. This, immediately after boiling over the orifice, and flowing a short way, was opposed by the acclivity of a higher point of land, over which it was impelled by the immense tide of liquified fire that drove it on, forming the figure V in grand illumination. Sometimes, when the ebullition slackened, or was insufficient to urge it over the obstructing hill, it recoiled back, like a refluent billow from the rock, and then again rushed forward, impelled by fresh supplies, and scaling every obstacle, carrying rocks and woods together, in its course down the slope of the mountain, until it precipitated itself down some vast ravine, concealed from our sight by the intervening ridges of Morne Ronde. Vast globular bodies of fire were seen projected from the fiery furnace, and bursting, fell back into it, or over it, on the surrounding bushes, which were instantly set in flames. About four hours from the lava boiling over the crater, it reached the sea, as we could observe from the reflection of the fire and the electric flashes attending it. About half past one, another stream of lava was seen descending to the eastward, towards Rabacca. The thundering noise of the mountain, and the vibration of sound that had been so formidable hitherto, now mingled in the sullen monotonous roar of the rolling lava, became so terrible that dismay was almost turned into despair.

At this time the first earthquake was felt; this was followed by showers of cinders, that fell with the hissing noise of hail during two hours. At three o'clock, a rolling on the roofs of the houses indicated a fall of stones, which soon thickened, and at length descended in a rain of intermingled fire, that threatened at once the fate of Pompeii, or Herculaneum. The crackling and corruscations from the crater at this period exceeded all that had yet passed. The eyes were struck with momentary blindness, and the ears stunned with the glomeration of sounds. People sought shelter in cellars, under rocks, or any where; for every where was nearly the same; and the miserable negroes flying from their huts, where knocked down, or wounded, and many killed in the open air. Several houses were set on fire. The estates situated in the immediate vicinity seemed doomed to destruction. Had the stones that fell been proportionally heavy to their size, not a living creature could have escaped without death. These having undergone a thorough fusion, they were divested of their natural gravity, and fell almost as light as pumice, though in some places as large as a man's head. The dreadful rain of stones and fire lasted upwards of an hour, and was again succeeded by cinders from three till six o'clock in the morning. Earthquake followed earthquake almost momentarily, or rather the whole part of the island was in a state of oscillation;...not agitated by shocks, vertical or horizontal, but undulated like water shaken in a bowl.

The break of day, if such it could be called, was truly terrific. Darkness was only visible at eight o'clock, and the birth of May dawned like the day of judgment; a chaotic gloom enveloped the mountain, and an impenetrable haze hung over the sea, with black sluggish clouds of a sulphureous cast. The island was covered with favilla, cinders, scoria, and broken masses of volcanic matter. It was not until the afternoon, the muttering noise of the mountain sunk gradually into a solemn yet suspicious silence. Such were the particulars of this sublime and tremendous scene, from commencement to catastrophe. To describe the effects is, if possible, a more difficult and truly most distressing task.

It has been announced in the English publications that SIR HUMPHREY DAVY would publish early in November *ELEMENTS OF AGRICULTURAL CHEMISTRY*, in a course of Lectures, delivered before the Board of Agriculture, illustrated with plates engraved by Laurie.

RECENT AMERICAN PUBLICATIONS.

Medical Inquiries and Observations upon the Diseases of the Mind. By Benj. Rush, M. D. 8vo. Philad.

Sketches, Historical and Descriptive of Louisiana. By Maj. Amos Stoddard, M. U. S. M. P. S. &c.

American Ornithology. By Alexander Wilson. Vol. 6th. Philadelphia.

The History of North Carolina. By Hugh Williamson, M. D. L. L. D. &c. &c. Philadelphia.

Anthony Finley of Philadelphia, and Bradford & Read of Boston, are preparing for the press, Cheyne's Works on the Diseases of Children, in three distinct Essays, viz. on Bowel Complaints, on the Croup, and on the Dropsy in the Brain.

E. F. Backus of Albany, is preparing for press, Hooper's Surgeon's Vade Mecum, with Notes.

NEW EDITIONS.

Elements of Chemical Philosophy, by Sir Humphrey Davy, L. L. D. F. R. S. &c. New-York.

Engravings of the Arteries, illustrating the second volume of the Anatomy of the Human Body, and serving as an introduction to the Surgery of the Arteries. By Charles Bell, surgeon. First American, from the third London edition, corrected. Philadelphia. A Findley, 1812.

The Principles of Surgery, by John Bell, surgeon, abridged. By Augustus Smith. Second edition, with Notes and Additions. New-York, Collins & Co. 1812.

The Modern Practice of Physic. By Robert Thomas, M. D. with an Appendix by Edward Miller, M. D. New-York, Collins & Co. 1813.

METEOROLOGICAL JOURNAL,

FOR OCTOBER, 1812.

	Thermometer.				Baro.	Wind.		Weather.	
	Day of	7 A.M.	3 P.M.	10 P.M.	3 P.M.	7 A.M.	10 P.M.	Day.	Night.
	1	55°	70°	63°	29,80	N.W.	W.	Fair.	Fair.
	2	62	75	62	29.86	S. W.	S. W.	Ditto.	Ditto.
	3	66	72	71	29.70	S.	S.	Rain.	Rain.
	4	65	68	62	29.30	E.	W.	Sho'ry.	Fair.
○	5	55	69	60	29.70	W.	W.	Fair.	Rain.
	6	52	55	46	29.70	N.W.	N.W.	Ditto.	Fair.
	7	41	60	55	29.72	W.	W.	Ditto.	Ditto.
	8	50	62	41	29.70	W.	W.	Ditto.	Ditto.
	9	40	52	43	29.93	N.W.	N.W.	Ditto.	Ditto.
	10	42	59	51	30.05	W.	S. W.	Ditto.	Ditto.
	11	53	60	51	29.96	S. W.	S. W.	Cloudy.	Ditto.
	12	63	53	46	29.80	S. W.	N. E.	Rain.	Cloudy.
☽	13	40	48	37	29.81	W.	W.	Fair.	Fair.
	14	34	52	47	29.89	W.	W.	Ditto.	Ditto.
	15	52	68	57	29.67	W.	W.	Ditto.	Cloudy.
	16	53	57	52	29.43	N.W.	N.	Cloudy.	Ditto.
	17	50	55	49	29.60	N.	N.	Ditto.	Ditto.
	18	45	57	43	29.70	N.W.	N.W.	Fair.	Fair.
	19	41	53	43	30.40	N.W.	N.W.	Ditto.	Ditto.
●	20	40	55	45	30.37	N.W.	W.	Ditto.	Ditto.
	21	52	60	46	30.00	W.	W.	Fair.	Ditto.
	22	44	55	45	30.10	W.	W.	Ditto.	Ditto.
	23	42	45	43	29.87	N.	N.	Rain.	Rain.
	24	40	51	46	30.02	N.	N. E.	Fair.	Fair.
	25	45	55	49	30.18	E.	S.	Ditto.	Cloudy.
☾	26	59	61	54	29.80	S. W.	S. W.	Rain.	Rain.
	27	44	55	50	30.10	W.	W.	Fair.	Cloudy.
	28	50	49	53	29.93	S. E.	S.	Rain.	Fair.
	29	50	55	47	29.80	N.W.	N.W.	Fair.	Ditto.
	30	44	61	51	29.96	W.	W.	Ditto.	Ditto.
	31	52	63	55	29.78	S.	S.	Ditto.	Ditto.

Mean temperature, 52°$\frac{1}{2}$.

Mean atmospheric pressure, 29. 835.

Quantity of rain, 4. 16 inches.

METEOROLOGICAL JOURNAL,

FOR NOVEMBER, 1812.

	Thermometer.				Baro.	Wind.		Weather.	
	Day of	7 A.M.	3 P.M.	10P.M.	3 P.M.	7 A.M.	10 P.M.	Day.	Night.
	1	46°	54°	43°	29.65	N.W.	N.W.	Fair.	Fair.
	2	38	56	46	29.95	N.W.	N.W.	Ditto.	Ditto.
	3	50	58	47	29.90	S.W.	N.W.	Sho'ry.	Ditto.
○	4	41	50	46	30.18	N.W.	N.W.	Fair.	Ditto.
	5	60	72	59	29.97	S.W.	S.W.	Cloudy.	Ditto.
	6	46	53	38	30.42	N.W.	N.W.	Fair.	Cloudy.
	7	35	41	33	30.38	N.W.	N.W.	Ditto.	Fair.
	8	30	45	36	30.18	N.W.	N.W.	Ditto.	Ditto.
	9	31	46	46	30.04	N.W.	W.	Cloudy.	Rain.
	10	50	57	54	29.68	S.W.	S.W.	Rain.	Cloudy.
☽	11	46	52	41	29.45	N.W.	N.W.	Fair.	Fair.
	12	36	43	39	29.45	W.	W.	Cloudy.	Ditto.
	13	35	36	34	29.36	W.	W.	Snow.	Cloudy.
	14	34	34	36	29.25	W.	W.	Ditto.	Ditto.
	15	31	41	35	29.50	W.	W.	Fair.	Fair.
	16	35	42	34	29.70	N.W.	N.W.	Ditto.	Ditto.
	17	31	43	34	29.80	W.	W.	Ditto.	Ditto.
●	18	37	42	36	29.40	N.W.	N.W.	Cloudy.	Cloudy.
	19	36	39	34	29.35	W.	W.	Ditto.	Ditto.
	20	26	35	30	29.65	N.W.	N.W.	Ditto.	Ditto.
	21	30	38	30	29.72	N.W.	N.W.	Fair.	Fair.
	22	29	41	32	30.06	N.W.	W.	Ditto.	Ditto.
	23	31	50	43	30.08	S.W.	S.W.	Ditto.	Rain.
	24	55	43	32	29.64	S.	N.W.	Rain.	Fair.
☾	25	25	31	26	30.20	N.W.	N.W.	Fair.	Ditto.
	26	25	36	34	30.28	N.W.	S.	Ditto.	Rain.
	27	45	48	34	29.77	S.	N.W.	Cloudy.	Fair.
	28	30	41	30	30.20	N.W.	N.W.	Fair.	Ditto.
	29	43	57	46	29.20	S.E.	W.	Rain.	Ditto.
	30	34	38	36	30.	N.W.	E.	Fair.	Cloudy.

Mean temperature, 40°.
Mean pressure, 29. 81.
Quantity of rain, 2. 28 inches.
Quantity of snow, 2 inches.

METEOROLOGICAL JOURNAL,

FOR DECEMBER, 1812.

		Thermometer.			Baro.	Wind.		Weather.	
	Day of	7 A.M.	3 P.M.	10 P.M.	3 P.M.	7 A.M.	10 P.M.	Day.	Night.
	1	36°	39°	31°	29.85	N.W.	N.W.	Snow.	Fair.
	2	30	36	36	30.08	N.W.	N.	Cloudy.	Rain.
○	3	32	34	30	30.30	N.	N.	Snow.	Snow.
	4	38	40	41	30.10	E.	E.	Rain.	Rain.
	5	45	57	39	29.13	S.W.	N.W.	Ditto.	Fair.
	6	34	37	29	29.70	N.W.	N.W.	Fair.	Ditto.
	7	25	35	35	30.15	N.W.	E.	Ditto.	Cloudy.
	8	40	45	37	29.72	S.E.	S.E.	Rain.	Ditto.
	9	36	37	32	29.20	S.E.	N.W.	Sleet.	Snow.
	10	25	30	18	29.13	N.W.	N.W.	Cloudy.	Fair.
☽	11	19	22	18	29.35	N.W.	N.W.	Fair.	Ditto.
	12	19	26	22	29.40	N.W.	N.W.	Ditto.	Ditto.
	13	22	35	35	29.50	N.W.	N.W.	Ditto.	Ditto.
	14	30	37	30	29.92	N.W.	N.W.	Ditto.	Ditto.
	15	26	35	29	29.95	N.	N.	Ditto.	Cloudy.
	16	28	33	26	30.	N.W.	N.W.	Cloudy.	Fair.
	17	23	34	26	29.87	N.W.	N.W.	Fair.	Ditto.
●	18	26	34	32	29.90	N.W.	N.	Ditto.	Cloudy.
	19	38	40	33	29.57	W.	W.	Cloudy.	Fair.
	20	26	27	20	29.76	N.W.	N.W.	Fair.	Ditto.
	21	17	24	21	29.80	N.W.	S.	Ditto.	Cloudy.
	22	22	27	26	29.50	S.	N.W.	Snow.	Ditto.
	23	33	38	35	29.30	S.W.	S.W.	Cloudy.	Ditto.
	24	33	38	30	29.10	S.	N.W.	Snow.	Fair.
☾	25	19	23	23	29.65	W.	W.	Fair.	Ditto.
	26	12	22	21	29.75	N.W.	N.W.	Ditto.	Ditto.
	27	19	23	20	29.91	N.W.	N.W.	Ditto.	Ditto.
	28	17	34	32	29.95	W.	S.W.	Cloudy.	Cloudy.
	29	27	41	39	29.90	S.W.	S.W.	Ditto.	Ditto.
	30	33	40	38	30.00	S.W.	S.W.	Ditto.	Ditto.
	31	34	38	33	30.20	N.E.	N.E.	Snow.	Snow.

Mean temperature, 29°¼.

Mean atmospheric pressure, 30. 22.

Quantity of rain, 2. 40 inches.

Quantity of snow, 4 inches.

THE

NEW ENGLAND JOURNAL

OF

MEDICINE AND SURGERY.

Vol. II.] APRIL, 1813. [No. II.

EXTRACTS FROM A DISCOURSE

ON THE DISEASE CALLED

TIC DOULOUREUX,

READ BEFORE THE DISTRICT MEDICAL SOCIETY, AT BOSTON, IN APRIL, 1812.

BY JAMES JACKSON, M. D.

A brief account of the notices which have been taken of this disease.

There is not any reason to doubt that this painful disease has existed in all ages. It is not, however, described by any of the Greek writers on medicine. Among the Arabians it is said to have been observed. We are told that Rhazis, one of the most celebrated physicians among the Arabians, has transmitted to us a description of this disease, for which he gives credit to Simion Seth, physician to one of the emperors of the east, and who lived in the eleventh century. Subsequent to this period, Ebr Sina, of the same nation, described the disease more fully and with more precision.*

---

* Traité du diagnostic medical par Dressig, traduit de l'allemand par L. J. Renauldin. a Paris. 1804.

Whatever may have been the merit of the description of these Arabians, it is certain that the disease was not distinctly recognized by the faculty in general until after the middle of the last century. It was in France that it received the earliest attention. A surgeon of Versailles, named Andrè, published in 1756 a collection of chirurgical observations, among which there were some respecting the tic douloureux.* It is probable that we owe to Andrè this name; at least it is to him we trace its use. About twenty years after this time (1773) Dr. John Fothergill communicated to the London Medical Society his remarks on the disease, to which he gave the appellation of "a painful affection of the face." Dr. Fothergill does not appear to have been aware that the disease had ever been noticed by any one before himself; and his description, which is very accurate, is drawn from his own observations on a small number of patients. The description given by Andrè I have never seen and cannot procure, and therefore I am not authorized to give any very positive opinion respecting it; but with the medical world in general, and even some of the French writers, I am disposed to give to Fothergill the credit of having first described this disease. For although it had before been described so that we can now recognize it in the writings of his predecessors; yet it was never before so described, as that physicians in general were made aware of its existence as a separate disease, and of its peculiar characteristics. From the time of Fothergill every one has been prepared and enabled to discover this painful affection wherever it has been seen.

Since Fothergill's publication (in the Medical Observations and Inquiries) many writers have noticed the subject. Pujol, a French physician, published an essay upon it in 1787, which is said to have been very learned, and to have evinced great research among ancient and modern writings for traces of this disease under some other name. These researches were not very profitable; but a knowledge that they have once been made with accuracy by a man of learning is useful; as it may prevent a loss of time in a repetition of them by others. Previous to Pujol's essay the subject had been considered in a memoir by Thouret and Andry, presented to and published by the Royal Society of Medicine of Paris (1779,) and since Pujol, by other writers in France and Germany. In England also the disease has been noticed in periodical publications, and in distinct works; particularly by Dr. Haighton (Medical Records and Researches) and by Dr. S. Fothergill, nephew to the Fothergill before mentioned.

---

* Diagnost. med. and Recueil periodique de la Soc. de. med. de Paris. Tom. 4.

In this country the disease does not appear to have arrested the public attention for any great length of time. Of late there has appeared an interesting and distressing case, which occurred in a very respectable physician of New-York.* It is not a little remarkable that the disease seems to have been quite unknown in that city, previous to the case here referred to.

Besides the names for this disease which have already been mentioned (tic douloureux, and painful affection of the face,) others have been proposed; of which, one given by Professor Chaussier appears to be the best. This is *neuralgia of the face.*

Description of the disease.

This disease is characterized by an exceedingly violent pain, which affects some part of the face for a short space of time, and recurs at uncertain intervals. It is very sudden in its attack, and is sometimes† perceived distinctly to pursue the course of the ramifications of some nerve.

This neuralgia is common to persons of both sexes; but has very rarely been noticed in any previous to the adult age, and is not common in persons under forty years of age. It has, however, been noticed in those between 20 and 30 years of age. It does not appear, on comparing the observations of different writers, that persons of any particular temperament or constitution, or that those who have pursued any particular employment or mode of life, are especially subject to this disease. I am disposed to think that the pain is usually more violent when it occurs in persons much advanced in life, than when in young persons.

---

* See Medical Museum, New Series, Vol. I. No II.

† This circumstance is not so constantly to be observed as the description of some good writers would lead us to think.

The seat of the disease is for the most part in the face, but in some instances it extends over the head. Very often it is over the antrum highmorianum, and spreads to the ala nasi and upper lip. It spreads also to the gums and even to the roof of the mouth.

In other cases it passes from the ear over the cheek, and this is very often its seat. Less frequently it is seated in the lower jaw; and occasionally it branches out from above the eye over the forehead. It has also been observed to affect the mastoid process and the occiput. Originating in some one of the places which have been described, it very often extends to all the others. It sometimes darts from the proper seat of disease to the surrounding parts with great rapidity, "shooting like radii from a centre."

It very rarely happens that both sides of the face are affected. This has, however, been said to occur in one or two cases. The disease has been known to affect each side alternately; and it has been thought to alternate with convulsive affections of other parts of the body.

Some writers state that the paroxysms occur only in the day. It is, however, certain that, they do occur in the night,* and even most severely in some instances.

The duration of the disease is uncertain. The paroxysms are mostly sudden in their access; but sometimes there are precursors. The pain is variously described. Very often it comes on by strokes or touches, like a spasmodic affection. These continue only a few seconds, or never perhaps more than a minute; but the frequency of repetition is exceedingly various. The repetition is sometimes so frequent that the pain seems almost constant. It is more frequent during certain periods; and these periods are from a few days to several weeks in duration. The intervals between these periods are also various; continuing a week, or month, a year, or even longer. There are patients who seldom obtain any of these respites from their distress, having some pain constantly; while others are perfectly at ease during these intervals. The suffering is excruciating in degree; being such "as neither words can describe, nor the imagination easily conceive."

---

* Diagnost. Medical.

The pain is many times produced by evident exciting causes. At others it arises without any warning and, as it would seem, spontaneously. There is this peculiarity respecting it. It will frequently be produced upon very slight irritations. A light touch, as in knocking off a fly, or in moving the bedclothes across the face, will in some patients occasion very excruciating pain; while the same persons can bear to press, or strike upon the part affected with great violence, without any unpleasant effect. The necessary motions in eating and speaking very often occasion a return of the paroxysms; as indeed will any spontaneous motion of the parts affected. Accordingly in severe cases the patient will endeavour to avoid any, the slightest motion of those parts; and in consequence of this restraint the countenance acquires a peculiar expression. The muscles of one side of the face only are put into action; but the effect is very different from what happens in hemiplegia, seeing that the power is not lost and the restraint is voluntary and even forced. The patient will take in his food only on the sound side of the mouth. The food must be such as not to require mastication, for this process cannot be performed without risk. Even in swallowing liquids, or food of the softest texture, the pain is, in the worst cases, so excruciating that the patient restrains himself to the least possible quantity; not thinking of gratifying the appetite, but endeavouring only to appease the most imperious calls of nature. In speaking, also, the patient must, during the periods of severe pain, be equally cautious and abstemious; uttering only monosyllables, or the shortest sentences; and in doing so much he restrains one half of the mouth from motion, so far as it is possible.

This terrible disease remits, and occasionally subsides forever, in a very sudden manner. It is often relieved for a time by engaging the attention of the mind. One gentleman it is said found relief in the amusement of cards.

It is commonly said that this disease is not attended with any swelling, or change of structure. This in general is true; but in some cases a general tumefaction of the gums takes place during the paroxysms of pain. See cases of Mrs. W. and Mrs. C.

DIAGNOSIS.

This neuralgia of the face is similar in some respects to four other diseases. It is therefore necessary to consider how it may be distinguished from them. These four diseases are trismus, odontalgia, rheumatism affecting the muscles of the face, and hemicrania.

Symptoms which distinguish the neuralgia of the face from trismus.

In the first of these diseases we find pain the most strongly marked symptom; although sometimes convulsive actions are observed about the face, they are proportionally slight. In trismus the spasmodic contraction of the muscles of the lower jaw constitutes the essential part of the disease; and, although this is attended with some pain, it is very inferior to that of neuralgia.

In the first of these diseases the jaw is sometimes kept nearly closed, so that the patient does not admit any, except very small portions of solid matter, to pass between his teeth; nor does he perform the action of mastication. But it is evident that all this arises from a dread of producing pain by a more free motion of the parts, and not, as in trismus, from an involuntary contraction.

Symptoms which distinguish neuralgia of the face from odontalgia.

One mode which has been mentioned of distinguishing between these diseases is from a consideration of the age of the patient. It has been thought that the disease, rarely, if ever, appears until after the fortieth and not often until after the fiftieth year; at which period of life the teeth are seldom the seat of pain, even if there remain any in their sockets. But I apprehend that too much reliance must not be placed on this mode of discrimination. Forstmann, a German writer, quoted with great respect by Heurteloup in the collection of the Society of Medicine of Paris,* says that he has seen the disease in young girls of the age of twenty, and even of nine years. Heurteloup also gives a long and minute account of a case in a Corsican, who was under thirty years of age. Darwin also, in his Zoonomia, gives a strongly marked and very severe case, in which the patient was between twenty and thirty years of age.

From the age alone, then, we are not authorized to decide the nature of the painful affection. But another question has arisen in my mind on this subject, and this is, whether affections of the teeth do not sometimes produce the neuralgia of the face. The pain peculiar to the latter disease certainly bears a resemblance to the pain which sometimes occurs in affections of the teeth, and which is described as jumping, twinging, &c. although the latter is seldom, if ever, comparable in severity to the neuralgia. But it is not on this resemblance alone that I have been induced to raise a question on this point. The question first arose in my mind in consequence of a case, which occurred to me two years since; and which I will take the liberty to relate.

---

* Recueil period: de la soc. de med. de Paris, Tom. 4. p. 205. "Cette dissertation de Forstmann est savante, pleine d'erudition et merite de tenir place parmi les bons écrits publiés sur le tic douloureux de la face. On y trouve les examples de jeunes filles de neuf et de vingt ans attaquées du tic douloureux."

Case of Mrs. S.

I was called to this lady in April, 1810, and then learnt from her the following history. In 1806, she had one of the molàres removed from the upper jaw on the left side. It was the fourth, and at that time the last of those teeth. A portion of the socket was removed, adhering to the tooth. The operation occasioned great pain; and this continued very severe for some time afterwards. At the end of three or four weeks the parts were inflamed; and a physician who saw her, thought that he could perceive a loose portion of bone. The inflammation subsided, however, without the discharge of any bone.

About seven months after the extraction of the tooth, she first experienced in the socket a pain peculiar in kind, and excruciating in degree. This came on very suddenly in the night. It continued to distress her for some days at that time, and recovered at several subsequent periods, continuing from half an hour to many days. In this time she had consulted different gentlemen of the faculty, and two of them on examining the socket, had told her that a tooth was coming, and she had in consequence several times had the gum divided very freely.

When I saw her I found an enlargement of the socket, and this was very hard. The appearance was such, that I should at once have adopted the opinion that a tooth was contained within the socket, had I not been told that the parts had then continued in the same state for more than three years. The pain at this time was excruciating. It had commenced some days before, and had been growing more constant. The description of the pain was this. Its access was sudden and violent, and it rarely continued so long as five minutes, sometimes not one, without a sensible intermission. This intermisson was of various duration, from one or two minutes, to hours, days, &c. But the pain was not strictly constant during the short period described. It consisted of successive strokes or shocks, very quickly repeated. These were darting, and more severe than words can describe, and they spread from the socket to the cheek and ear, and occasionally over the side of the head. The miserable patient was unable to lie down when suffering the pain, and as this continued in the night as much as in the day, she often spent a great part of the night out of bed. At one time, she passed nearly a week, without having more than one hour's sleep in a night on an average.

I divided the gum without affording her any relief, although previously she had got some ease after this operation. Internally, I administered first the aq. ammoniæ without relief; I then directed the inspissated juice of *hemlock* (conium maculatum,) and after increasing it to a very large dose, such as affected her head, she was relieved. The pain occasionally returned for short periods, during three or four months afterwards. The same remedy would always give relief.

Six or eight months after she had felt any of the pain, she found that a tooth had protruded from the part where the tumour had been, with so little uneasiness that she had not discovered it, until fully grown. Since that time she has continued perfectly free from her distressing pain.

In this instance the pain had the most important characteristics of the neuralgia. It was uncertain in the time of its attack, sudden, coming by strokes, or darting, and excruciating in degree. It was also mostly, though not wholly, confined to the portio dura of the seventh pair of nerves. At the same time it is impossible not to attribute the pain to the tooth, which was for so long a time retained under the gum.

To return from this digression, let us proceed to consider the signs by which the tooth ache may commonly be distinguished from the tic douloureux.

One obvious and important distinction is to be derived from the seat of the pain. In the odontalgia the pain is in the teeth, or sockets, extending, however, by continued sympathy to the neighbouring parts in severe cases. In the neuralgia it follows the course of some one, or more considerable nerves.

In odontalgia there is commonly to be discovered some obvious cause, as a carious tooth, or a tooth piercing the gum, or pregnancy; and where there is a carious tooth, the removal of it gives relief. But in neuralgia the pain is rather increased than diminished by the removal of the teeth; and the disease occurs in subjects who have lost all their teeth.

It is said that the odontalgia is never accompanied by convulsive motions in the muscles of the face; while these frequently manifest themselves in neuralgia.*

Symptoms which distinguish neuralgia and rheumatism of the face.

The rheumatic affection is said to have regular periods of access, and those mostly at night; while the neuralgia occurs at irregular periods; but those in the day time. In most cases, perhaps, it is worse in the day time than in the night; possibly owing to the inevitable operation of many exciting causes during the day. However, the neuralgia does occur with great severity in the night, although some authors have thought otherwise.

The pain of rheumatism is more constant and much less severe, than that of neuralgia. When rheumatism is most severe, as when it is acute, it is usually accompanied by swelling of the parts affected, which does not occur in any considerable degree in the other disease.

Finally, the rheumatic pain does not regard the distribution of the nerves; while the neuralgia follows them so exactly, in some cases, that their distribution may almost be learnt by attending to the course of the pain.

Symptoms which distinguish the neuralgia from hemicrania.

There is certainly a great resemblance between those two diseases; so great, that Dr. Curry, a physician of Guy's Hospital, does not hesitate to declare, that they are one and the same disease. "I am now fully convinced," says he, "in a letter to Dr. S. Fothergill,† that the disease commonly known under the name of hemicrania, is no other than the tic douloureux affecting the nerves which supply the temporal muscle and scalp." It would require too much time to examine the evidence offered by Dr. Curry in support of his opinion. It certainly has some weight, but it is not conclusive.

---

* Traité du diagnostic medical.

Hemicrania is most commonly intermittent, occurring in paroxysms, as regular as those of an ague. This is not a very rare disease with us in spring and autumn, and sometimes it occurs in winter. It is frequently a concomitant of a catarrhal affection. The pain is generally in one temple or about one eye, occasionally spreading over the side of the head, but seldom or never extending to the cheek. It is usually quite confined to one side of the head. It does not occur at any one stated hour in all cases; but in most it comes on about ten or eleven o'clock, A. M. and continues from four to eight hours. From the time of the access it gradually increases until near its termination; for after rising to its greatest height, it subsides pretty rapidly. It yields to cinchona; but more certainly to arsenic, employed as directed by Fowler.

This disease is very painful, but the pain is not of the lancinating kind, which occurs in the neuralgia. It may certainly be easily distinguished from this last.

OF THE CURE.

Dr. Fothergill the elder, who was distinguished at once for humanity and professional skill, when he made his brethren acquainted with the character of this distressing disease, was at the same time enabled to direct them to a mode of relief, which in his hands had been almost uniformly successful. The medicine he employed was the hemlock, (conium maculatum) an article which he was accustomed to administer more than most physicians of his own or any other age, and with the powers of which he was very well acquainted.

---

† S. Fothergill on tic douloureux, page 73.

That eminent physician mentions three cases in which he employed this remedy with decided benefit; and says generally that after having once proved its efficacy, he always had recourse to it, and "for the most part with success."

Since his time, the character of hemlock, as an article of the materia medica, has very much depreciated. In regard to this disease, we can scarcely find on record a single case, in which this remedy has been thought to produce a cure, since Dr. Fothergill's publication on the subject. On the contrary, many declare expressly that the medicine has altogether failed to give relief. How are we to reconcile these contradictions?

As we must not too readily credit the account of any one man, who relates the virtues of a fashionable medicine; so, if such a man is of respectable character, we should not altogether distrust him, when the medicine has grown unfashionable. Dr. Fothergill could not be mistaken as to the facts, that his patients recovered of this obstinate disease, and that they recovered while using the hemlock. He might be in error when he attributed the recovery to the hemlock. But likewise he might have managed the remedy in some manner different from that of others.

It is remarkable respecting this remedy, more than respecting any other of which I know, that it produces different effects in different hands. I well remember that a very respectable physician told me some years since, that he had seldom employed the hemlock with any advantage; but that one of his brethren in the neighbourhood had directed it in many cases with manifest benefit. These gentlemen are both of the first rank among us, and particularly worthy of being so.

This statement will authorize me to inquire, what are the reasons for the different reports we have from those who have employed the hemlock?

The first reason is, the difference in the preparations employed. In a vast many cases, undoubtedly, the preparation which has been used, has been entirely inert. The inspissated juice, which has been commonly kept by our apothecaries, has been imported from England, and has been very badly prepared.*

But there are other reasons for the different effects of this medicine in the hands of different practitioners. Some restrained by fear, not only begin with a very small dose but increase it so very slowly, that in most instances the constitution becomes gradually accustomed to its effects; and, as happens to old smokers of tobacco, a very large dose may at length be borne without any very evident consequences. Others fail from want of confidence in the medicine. They prescribe it, but do not watch over the patient and direct the use of it from day to day, so as to make it do all it is capable of doing.

These remarks lead us to consider what is the best mode of using the hemlock.

The object is in most and perhaps in all cases, where this medicine is given, to produce a sensible effect on the system. The medicine may be beneficial without producing any such effect; but, if it is not beneficial, we cannot be said to give it a fair trial, until we have some proof that enough has been administered to produce an impression on the system. Now the quantity necessary for this purpose is very various. In some cases very small doses have been said to produce powerful effects. We are therefore obliged to begin with a small dose, and to increase this so far as the patient can bear it. It may be most prudent to begin with a single grain of the inspissated juice or extract, but then we may give five grains for the second or third dose; and afterwards we may add at least five grains to every dose, until we produce an effect on the system. But what are the effects on the system, and how soon will they appear? The most obvious effects of this medicine are displayed in its operation on the head and stomach. When given in a full dose, it occasions a slight nausea, a giddiness more or less severe, and often a loss of muscular power, so that the patient cannot stand up. It seldom does good, unless used in such a dose as to produce these effects in some degree, and indeed in as great a degree as can easily be borne.

---

* Several years since I requested Mr. Bartlett, druggist, of Boston, to have some of the inspissated juice prepared in his own shop. This was done, and he has every year since prepared a small quantity for those who were willing to pay the extra expence of it. This has been prepared with great accuracy, and I have had repeated proof of its superiority to that in common use. I will take the liberty to mention a case which will illustrate this. I prescribed the inspissated juice of hemlock for a patient affected with jaundice. In three days she had increased the dose to thirty grains without any effect. I then found that by sending to the wrong shop, she had procured some of the imported medicine, which, however, looked very well. I directed the medicine to be procured from Mr. Bartlett's shop, and the dose to be diminished. This last caution was a very necessary one. She took ten grains without any effect; but fifteen grains of the medicine prepared here, were enough for her. After taking this dose she was unable to stand, or even set up for an hour or two, and from that time the yellowness of skin and all the other symptoms of her disease began to abate.

These effects will begin to be evidenced in a very short time, if they are so at all. I will not venture to say precisely in what time; but I believe always in much less than two hours. Patients affected with neuralgia, who have taken this medicine during the paroxysms, have told me that when it produced any effect, this was manifested within fifteen or twenty minutes after swallowing it. I have therefore in urgent cases ventured to repeat the doses every half hour. I believe it must always be abundantly safe to repeat them once in two hours, if the patient and attendants are careful and watchful, and well informed in regard to the effects.

My own experience of the efficacy of this remedy in neuralgia, conforms with that of Dr. Fothergill. It does not appear that he was obliged to give very large doses in any case; and it would seem that he did not repeat them oftener than twice in twenty-four hours. But he did not consider himself as having given the medicine a trial, until he had administered enough to produce evident effects on the system. For the want of success of others since his time I cannot offer any explanation, except that contained in the forgoing remarks.

In certain cases the sensibility of the diseased nerves had been destroyed by dividing the trunk of the particular nerve, from which the diseased branches proceed.

It is remarkable that this practice was conceived and adopted in both France and Great Britain, without being derived from one country to the other. A French surgeon, by the name of Mareschal, is said to have been the first who adopted this mode of treatment on the continent of Europe. In England it was first proposed and adopted by Dr. Haighton, after he had discovered the true seat of the disease.

In the case,* in which Dr. H. adopted this practice, the suborbitar nerve was diseased; and he divided this by one incision extended to the bone and made at the distance of one quarter of an inch from the suborbitar foramen. Dr. H. thought the same mode of treatment might be pursued, where the frontal branch of the first branch of the fifth pair was the seat of the disease. But he did not think this treatment applicable where the disease affected the third branch of the fifth pair, or the portio dura of the seventh pair of nerves. It appears, however, by a statement in Darwin's Zoonomia, that under the direction of Mr. Cruikshank almost every nerve of the face was divided in one instance, and with eventual success.

This mode of treatment is certainly to be advised in cases, where the disease resists internal remedies. It is not infallible, for in some instances the nerve uniting, the pain has returned in a short time; in others, after a number of years.

I ought perhaps to add that in France they have employed not only the knife but also caustic to destroy the nerve. This operation must be more painful than the incision, and at the same time less certain and less safe. For instance the suborbitar nerve lies directly upon the bone. Now it must be almost impossible to destroy this nerve by caustic without injuring the bone.

---

* In this case the disease returned at the end of some years as stated by S. Fothergill, but with less violence. In other cases however it has not returned; in some it has. Yet when it does the operation may easily be repeated in case of the suborbitar nerve.

To both modes of division it has been objected that the parts which are furnished by the divided nerves will be paralized. In severe cases this cannot be a sufficient objection to the practice, since the same parts are worse than paralized by the disease. Besides, it is known that the nerves will reunite and their functions be restored in a short time.

It has been found that various stimulants have been usefully employed in the treatment of this disease. I must be brief in noticing them.

Electrical sparks and other local stimuli have afforded some mitigation in this most distressing complaint; and in one case electricity was thought to effect a cure.

Aqua Ammoniæ* was successful in the hands of Dr. S. Fothergill. I have tried the same, and once with success.

Preparations of zinc, silver, quicksilver and arsenic have been found useful in some instances. Two cures were affected by mercurial salivation in France. The disease was supposed to have had a syphilitic origin; but the evidence in support of this opinion is not conclusive. In other cases the use of mercurials has been thought to aggravate the disease. Arsenic is perhaps more worthy of further trial than any of the metallic remedies;—but in the present state of our knowledge it appears to me that the use of the narcotics deserve a fair experiment before any of those remedies.

I shall now, gentlemen, only beg your patience for a short time longer, while I read to you the cases of this disease which have fallen under my observation, and I will not detain you even to apologize for the undue length to which this discourse has been protracted.

Case of Mrs. O.

This patient came under my care about four years since. She was past sixty years of age. She had previously been subject to severe colic, fits of which were produced whenever she eat any flatulent food, particularly beans. This disease was perhaps connected with some hepatic affection, or with gall stones, for one of the fits of colic was followed by jaundice.

---

* Aq. Ammon. caust vel pur.

When I saw her, she had been suffering with the pain in her face for about two years. The infra-orbitar nerve was distinctly the seat of the disease. The pain was often induced by a very slight touch, though she could bear hard pressure on the part. The disease was of the most unequivocal character.

I administered the aq. ammoniæ, the use of which had then been recently recommended by Dr. S. Fothergill. The dose was at first one tea-spoonful, but this was gradually increased to three tea-spoonfuls, and was administered three times a day. This disease shortly after gave way, and the patient had a respite of some months; a respite longer and more perfect than she had enjoyed before, since the disease commenced. Yet at first I thought this might be accidental. At length the pain recurred with less severity, and yielded at once to the same remedy. I am not sure that it did not recur once more, slightly. The patient promised to let me know if the disease ever appeared again, and as she was very grateful for the relief she received, it is probable she would not forget this promise. It is now three years since I have seen her, and therefore I presume she continues well. I have lately inquired for her, and know that she is living, but I could not find her.

Case of Mrs. W.

This lady applied to me in the autumn of 1808, when she was about twenty-five years old. She had for some years been afflicted with pain on the right side of her face, which she had referred to her teeth, and all those in the upper jaw on that side, except the incisors, had been removed, with a hope of obtaining relief. The character of these pains, previous to the autumn of 1808, is uncertain. The pain was called *tooth-ache* at the time; but it must at least have been very severe to induce a young and handsome woman to give up so many teeth.

When Mrs. W. first applied to me, she had been suffering extreme pain for a month. The pain came on in the night much more than in the day, though not at regular hours. This was unlike the neuralgia. After I visited her, it occurred very often in the day, and gradually became less frequent in the night. The most constant seat of the pain was in the course of the suborbitar nerve; passing from the alveolar processes, the lips, cheek, and side of the nose, to the eye; that is, from the branches to the trunk of the nerve. When severe, it often extended itself, passing into the lower jaw, to the ear, over the forehead and to the side of the head. The severe paroxysms were attended with a swelling of the gums of the upper jaw, which from the feelings of the patient seemed to be very considerable, but which on examination appeared to be very slight. The pain was sudden in its access, violent, darting, shooting, and consisted in strokes following each other in quick succession. Its continuance was various, but the dread of it was horrible; and the patient seemed unable to convey an idea of her agony. During the paroxysms the patient was quite unable to take food, and was very unwilling to speak. She tried to keep the cheek and jaw on the right side quiet, while she was speaking. Yet the paroxysms were not often produced by eating or speaking.

I first gave a fair trial to the aqua ammoniæ. The dose was gradually increased to three tea-spoonfuls, and was administered three times a day. Although the occasional remissions, which always occur in this disease, encouraged us to go on, yet eventually it appeared that this remedy was not adequate to the cure of the disease.

I then directed the conium maculatum, of which the inspissated juice (extract) was given twice a day. The dose, which at first was small, was gradually increased, and it was repeated more frequently. Now and then it seemed to give relief, and the head would be a little affected. But the system seemed to become accustomed to the medicine very rapidly.

I conceived that if the system could be made to feel the effects of this medicine suddenly and powerfully, there would be a chance of producing a real cure; a better chance than from giving a much larger quantity during a long space of time. Accordingly, after having exhibited the medicine for about a fortnight, and increased the dose to six and eight pills of five grains each; and having ascertained that whenever any sensible effect was produced, it took place within fifteen or twenty minutes after the dose was swallowed, I resolved on a bold trial of this medicine. I directed eight pills to be taken as soon as the pain should come on, and that the same should be repeated, at the end of twenty-five or thirty minutes, if the pain should continue, and the medicine should not affect the head or stomach. At this time the paroxysms of pain had become inexpressibly severe and very frequent. My directions were carefully followed. The intervals of pain were such as sometimes to prolong the intervals between the doses; but in the course of six hours, sixty* pills were taken, making three hundred grains. After the last dose, the patient was quite overcome by the medicine. She became dizzy and faint, and was unable even to set up. She laid upon a sofa for some time, in a state of intoxication, but without suffering any very unpleasant effects afterwards. The respite from pain and from susceptibility of pain, was more perfect and longer than at any time for several weeks before. But the disease was not conquered; it returned the next day with considerable severity. I had directed the medicine to be repeated as soon as the pain should return, which was done, and in the course of the day forty-eight pills were swallowed. These gave entire relief, and affected the head, but not so powerfully as on the day before. The disease seemed now to be vanquished. This was in November, 1808, and for two months the pain was not felt, except in very transient twinges, which were never repeated for any length of time. About the middle of January following, this lady walked out on an extremely cold day, and the disease returned before night, with very considerable force. The hemlock was employed again, but in smaller doses at first. In three days the disease gave way, without having required very large doses of the medicine. Since that time it has never recurred; that is, during more than three years.

---

* The patient could not every time get down the whole of the eight large pills, so that some doses were seven and some eight; whence the whole came to be sixty.

Case of Miss S.

I saw this lady in June, 1809, when I learnt the following history. In the early part of the preceding winter, she began to be affected with a pain in her face, without any preceding ill health. At this time she was not quite twenty years of age. The pain continued to trouble her excessively through the winter and spring. The principal seat of pain was the lower jaw, going back to the ear; but it often spread over the cheek, and sometimes to the temple. It was not in the teeth, for there was not any diseased tooth near the parts affected, and the pain was referred to the external parts, not to the bone of the jaw. This pain was described as excruciating in the highest degree, and as coming on suddenly in shoots and strokes.

I directed the tincture of hemlock;* thirty drops for the first dose; but ordered that the dose should be frequently repeated, and presently increased if relief were not obtained.

The patient took two doses, thirty drops each, the evening after I had ordered it, with great benefit. After this she was able to command the pain, but was obliged for this purpose to increase the dose very much. In a short time the pain left her. I did not see her for many months after my first visit in June; but learnt that she had a return of pain in the October following, which was relieved by hemlock.

Two years afterwards the disease recurred, viz. in Aug. 1811, when she had been married, and was nursing a child then about four months old. The return of the disease was perhaps owing to debility, occasioned by the warm weather and nursing, which her system did not appear to support with ease. She again took the tincture of hemlock, but unfortunately was obliged to go out of town, so that I could not attend to the administration of the medicine. The dose was gradually increased to three hundred drops. It never gave relief except when it affected her head, and always when it did, as she afterwards told me. The disease yielded in two or three weeks after she commenced the use of the hemlock, and since that time it has not returned.

---

* This was prepared in the same proportions as the tinct. digital. p. I have known it doubted whether the medicinal virtues of the hemlock are given out to proof-spirit. On this head I have obtained satisfactory evidence. In the above case, it will be seen that the head was affected, as when other preparations of hemlock are given. I have twice given this preparation in cases of icterus, as proposed by Dr. Fisher, and with unequivocal success. In one of these cases the head was made dizzy, and relief obtained by twenty-five drops. But in general much larger doses are required.

Case of Mrs. C.

This is a lady now in her 74th year, who has enjoyed unusual health through her life, and even now retains uncommon vigour, notwithstanding she has undergone extreme pain in her face for a long time. I was called to her on the 21st of February last. I found her under the utmost terror of the paroxysms of neuralgia of the face; so that she was unwilling to speak to me except in monosyllables, and the shortest sentences.

Her history was briefly this. In November, 1809, she first experienced a pain in the upper jaw of the right side; not in a tooth nor socket, for she had lost all her teeth many years ago. This pain occurred when she was eating, but not from biting any thing unusually hard. She felt as if something gave way. Soon afterwards this pain occurred, and became more and more frequent and more severe. For many months (until the ensuing summer) she suffered excruciating pain, which was not confined to the jaw but spread over the cheek, and at length to the whole side of the head; to the lower jaw and to the palate. This pain was not constant; it was sudden in its occurrence and often in its departure, of uncertain duration and frequency. It was brought on by the slightest touch in many instances, such as adjusting her cap, and even by the warmth of a hand approaching her. It was very often brought on by speaking and by eating, so that she kept herself as silent as possible and has lived on a very small quantity of food, not thinking of gratifying her appetite. At one time she is said to have passed a fortnight almost without sustenance.

In this case the pain occurred equally in night and day. It was attended by a swelling of the gums in the jaw affected, and at times by a redness of the cheek. It was also accompanied by a hacking cough, as if the disease extended to the borders of the larynx.

Since the spring of 1811, she has been less frequently and less severely affected; but for the two or three weeks before I saw her, the pain had been increasing in severity and threatened her with sufferings, as excruciating as heretofore.

This lady has had the advice of two of the most respectable, and the two oldest physicians now living in this place. Various remedies were ordered by them, but without benefit, as the patient reports.* I ordered the inspissated juice of the hemlock to be taken night and morning, beginning with one pill of five grains, and adding one pill to each dose. I intended, however, to administer this medicine more freely after seeing how the patient bore it. In three days the patient began to experience some relief, and in eight days she declared that she was almost free from pain though the parts continued very sensible. From that time she has not had any pain of any consequence, and considers herself almost as one restored to life, as she had, before using the hemlock, quite despaired of ever obtaining relief from sufferings too severe for utterance.†

---

* I have learnt since that the conium mac. was ordered, but from some circumstances, never taken; at least only three pills, which the patient fancied to hurt her.

† This lady had one slight attack in May or June last, and was immediately relieved as before. The other patients have not had any return of the disease. March, 1813.

NOTICE OF THE LATE

JAMES LLOYD, M. D.

Doctor James Lloyd was for more than half a century a medical practitioner in the town of Boston; during which period he was at all times highly distinguished, whether we judge from the extent of his business, the respectability of his patrons, or the merit and success of his practice.

Dr. Lloyd was descended from a very respectable family. His father was Mr. Henry Lloyd, a merchant in Boston, but who retired to his estate on Long Island (N. Y.) before the birth of James, his youngest son. This son received his education at some private seminary in Connecticut. He commenced the study of medicine at seventeen years of age under Dr. Samuel Clark, at that time an eminent practitioner in Boston.

In his twenty second year Mr. Lloyd visited London, where he spent two years. During this period he was first dresser to Mr. Warner, a very respectable surgeon in Guy's hospital, and of course had access to all the patients in that and St. Thomas's hospital. He there saw the practice of the most distinguished surgeons of the age, among whom were Cheselden and Sharp. He likewise had an opportunity of studying all the elementary branches of his profession under the first masters. He attended the anatomical lectures of that accomplished scholar, anatomist and physician Dr. Wm. Hunter, the elder brother and the master of the celebrated John Hunter. He also attended the lectures of Dr. William Smellie, the father of scientific midwifery among the English. How diligent Mr. Lloyd was in the pursuit of knowledge, may be judged from an anecdote which is so flattering to our country as well as to him, that we canot forbear relating it.

In the year 1800, the venerable Mr. Warner, formerly the surgeon at Guy's Hospital, was on a committee of the Royal College of Surgeons of London to examine candidates. Among these was Mr. Horace Senter, afterwards physician in Newport, Rhode Island, the place of his nativity. After Mr. Senter's examination was closed, Mr. Warner acquainted him with the satisfaction and approbation of the Committee, and added in substance as follows, "that he was extremely pleased in finding that the young gentleman had maintained the character of New-England; for that he had uniformly noticed that the medical pupils from New-England had been remarkable for their industry and acquirements, from the time of his most excellent pupil, Mr. Lloyd of Boston."

Dr. Lloyd returned to his native country and commenced the practice of medicine, surgery and midwifery in the town of Boston, about the year 1750. The uncommon advantages he had enjoyed, gave him a just claim to the attention of his fellow citizens, and the services which he rendered them, obtained for him their confidence and respect. His practice very soon became extensive, and continued so until his age forbad him to undergo the severe and constant labour which belongs to the medical profession.

As few men have enjoyed, through a long life, the affection and the respect of the most judicious members of the community, in so high a degree and with so much constancy as did Dr. Lloyd, it may be useful to consider his character, with a view to ascertain what are the qualities, by which he obtained so rich a reward.

It may first be noticed, that he had not the advantages of a regular academic education, and never acquired the habits of a student. He appeared to have read the medical works in most esteem during the early period of his life, and was by no means ignorant of the essential improvements in practice published after this time. But he never made any pretensions to the character of a scholar. Yet, on the other hand, he appears to have spent much more time in his professional education than has ever been customary in this country, and his mode of education was such as to give him the best practical knowledge of the age. In the middle of the last century, London was undoubtedly the best school in the world for anatomy, surgery, and midwifery. If, even then, the Edinburgh professors had begun to teach the science of medicine more regularly, the opportunities in the Borough Hospitals, to which Dr. Lloyd had access, far surpassed any which most physicians in this country had enjoyed.

With such opportunities, with so much time, and with the diligence for which it appears Dr. Lloyd was remarkable during his pupillage, he laid a most solid foundation and went far toward erecting a stable edifice, before he exhibited the result of his labours to the public. We can scarcely refrain from dwelling on the great importance of giving sufficient time to the business of professional education, and on the powerful effect it has on a man's future character and success; because these are circumstances, which we believe to be too little regarded among us. In a medical education, there is much, very much to be learnt, and it ought to be learnt in detail, and have time to make a full impression on the mind, especially every thing which relates to practice.

But we mean not to rely on these circumstances alone, to resolve the question before us. Dr. Lloyd owed much to his education; but he owed much also to the kindness of nature, to an excellent disposition, and to a correct deportment. He was endowed with senses which were remarkably accurate and acute, and with a faculty of perception unusually prompt; and as he thought not of words but of things, his combinations were rapid.

He thought not of words, but of things; he was not, therefore, prepared to engage in the disquisitions of the book-learned, nor to combat the notions of the stiff and dogmatical speculatist; but he read the language of nature with the eye of watchful intelligence, and ministered to her aid with the skilful hand of a master.

Dr. Lloyd had a benevolent heart, he possessed the principles of a Christian, and he had been accustomed from early life to polished society. Hence he could not fail to have true politeness. In fact, his manners, which were frank and open, were remarkably urbane and polished. As a man and a citizen, his conduct was as seldom the subject of just reproach as happens with almost any among mortals. In his profession, he was distinguished by his kindness and humanity, as much as by his skill. Toward his brethren, his deportment was peculiarly worthy of commendation. The effect of this was seen in the great readiness and pleasure with which, after he had passed the middle line of life, young practitioners consented and sought to consult with him. He met them in consultation, to give to them all the aid of his long and careful observation and experience; and while he benefitted them by his instructions, he did it with a modesty and an honest distrust of human knowledge, which taught youth a most valuable lesson. On these occasions he was especially careful to treat the feelings of young men with a delicacy, which his own sensibility taught him to value.

Dr. Lloyd was elected president of the Massachusetts Medical Society at an early period after its formation. He was an honorary member of the American Philosophical Society, and was one of the first who received the honorary degree of M. D. in our University.

This excellent physician enjoyed great vigour of both body and mind, until within a year of his death. In the spring of 1809, he began to spit up bloody mucus, and felt occasionally a soreness and uneasiness at the breast. He did not mistake the import of these symptoms, but he chose not to make his family uneasy by communicating them. After some months, the stomach began to fail; and in August he grew sick suddenly, found himself affected with nausea and giddiness, while visiting a patient; went home in haste, and threw himself on a bed, from which he never rose to pursue his ordinary worldly occupations. He underwent occasional amendments and relapses, but was on the whole declining until March, 1810, when he gradually sunk under the irritation of a pulmonary affection, which did not seem to be formidable either in degree or in extent, but which the diminished vitality of eighty-four was unable to resist.

CASE OF

RETROVERTED UTERUS.

COMMUNICATED BY HECTOR ORR, A. M.

The lady, the history of whose case is the subject of this communication, was about twenty-seven years of age; of a slender and delicate constitution, and in the fourth month of her first pregnancy. From the commencement of gestation, she had been subject to occasional difficulty in evacuating the contents of the vesica urinaria, accompanied with a slight degree of heat and scalding of the urine. These symptoms, though the harbingers of one of the most distressing disorders incident to females in the advanced months of gestation, were considered by her friends, whom she often and anxiously consulted, as the ordinary concomitants of pregnancy. It is not always recollected, that the most formidable and dangerous diseases are often so insidious in their attack, that the first deviation from health scarcely attracts the notice of either the unfortunate sufferer, or her more experienced companions. It is the confirmed stage only, which gives the alarm, when the appearance of more urgent symptoms threatens a fatal termination. It is under circumstances like these, that the first appearance of indisposition, which might have been easily obviated by the interposition of appropriate remedies, is permitted imperceptibly to proceed until the disorder acquires a degree of obstinacy, which defeats the best concerted schemes of relief.

The levity with which her friends heard and treated her complaints, soothed her fears, and rendered her, perhaps, less anxious to apply for medical advice, or to have recourse to the common diuretic infusions, and embrocations to the abdomen and vulva. As they had not the smallest suspicion of any danger, they more confidently endeavoured to allay those disquieting apprehensions, which her situation would naturally create. She was encouraged by their consoling assurances, and induced to believe, that time would soon bring a relief from a troublesome and painful indisposition, which was represented as transient in its duration, and harmless in its consequences. Naturally fond of society, she continued to seek its amusements with her usual cheerfulness; and to indulge in the luxuries of the table from a persuasion that her constitution required a full and nutritive diet to enable her to realize the consummation of her wishes.

A few evenings previous to her applying for medical assistance, while in the act of shutting the outer door, unsuspicious of any person being in the yard, one of her neighbours, at that instant, discharged a musket in front of the house, where she was standing; at which she was much alarmed, gave an involuntary shriek, and instantly fainted. A trifling hæmorrhagy of the nose ensued, which was easily restrained; and after a few moments rest in a recumbent posture, assisted by some cordial and stimulating applications, she recovered from her swoon and fright. From this time the desire to pass her urine became more frequent, and every repeated attempt was attended with increased pain and difficulty.

It is by an intimate acquaintance with the anatomical structure of the pelvis, and the relative connection of its internal viscera, that we are enabled fully to comprehend the manner in which it is possible for a retroversio uteri to be produced by a suppression of urine. And by a knowledge of the reciprocal influence of the bladder and vagina, the back part of the former being connected with the upper part of the latter, we can satisfactorily account for a stillicidium urinæ being produced by pregnancy. I believe it is a generally received opinion, that the fundus of the uterus is the first part enlarged by impregnation, and in consequence of its enlargement, and the resistance which it meets from the viscera in the brim of the pelvis, the womb sinks deeper within the bony cavity, with the os tincæ projecting further into the vagina. This descent of the enlarged uterus must necessarily shorten the vagina, by which the urethra, which is connected with the outer cellular coat of the vagina, will be compressed, and occasion an obstruction of urine. How far these observations are applicable to the present case, will be determined by the history of its symptoms, which produce the fullest conviction in my mind, that a suppression of urine was the induciate cause of the retroversion of the uterus.

On the morning of the 30th of August, 1812, after having made a violent exertion, by straining, to pass the contents of the urinary cyst, in which she but partially succeeded, she felt something give way within her, and was immediately seized with bearing-down uterine pains, and great distress in the whole abdominal region. As she had not had an alvine discharge that morning, and had eaten the preceding day a large quantity of green corn; her attending physician supposed the case to be a constipation of the bowels, and a threatened miscarriage. He bled her, and directed a cathartic of jalap and submuriate of mercury, which was soon rejected by the stomach. She was then ordered to take repeated doses of an infusion of senna and sulphate of soda conjointly, and at stated intervals a portion of castor oil, until their purgative effect should be produced. In the night a small discharge of urine, and several liquid stools were procured, which were followed by a temporary alleviation of distress. An anodyne draught was exhibited, and she fell into a quiet and refreshing sleep, which she enjoyed about an hour, and then awoke in the most indescribable agony. Her groans pervaded every part of the house, and were attended with a continual tossing and restlessness. Unable to stand erect, she hung upon the arms of her friends, who supported her for a few moments on her feet, in an inclining posture, then received her in their laps; but the alteration of position brought no relief from the anguish. Every situation was alike painful, and she looked in vain for ease from the unremitting assiduity of her attendants. She was taken alternately from the lap to the bed, and from the bed to her lolling chair, without any mitigation of her distress from change of place or posture.

The relief which the cathartic had afforded was so transient, and her complaints so dissimilar to any thing ever witnessed by Dr. G. Thaxter, during many years of extensive practice, that he considered the case to be highly important, and advised a consultation. The proposal meeting the approbation of her friends, I was called to visit her in the afternoon of the 31st of August.

On my approaching her bed, she informed me that there was something so peculiar in her distress, that she was unable to describe it; if more perceptible in one part, than in another, it was in the abdominal and lumbar regions, and occasionally in the left hypochondrium. The abdomen was full, tense and sore. From the history of the case, I had no doubt of its being a retroversion of the uterus, and suggested my opinion to Dr. Thaxter, and proposed to him, to ascertain the fact by an examination. But from certain circumstances, at the time, the desired information was not obtained. The alternative left us by this denial, was to adopt a temporizing practice, which, if it did not ensure entire success, might mitigate the severity of her sufferings. To accomplish an object so desirable, a mild laxative was administered; and to evacuate the rectum more effectually, an enema was ordered to be injected, which was effected with much difficulty, but not retained. Late in the evening, she voided a small quantity of urine, and discharged much flatus with several scanty fluid stools, without experiencing any relief of the pain and distension of the abdomen. We felt the awkwardness of our situation, but were not without the hope, that I was mistaken in my conjectures, and that her disorder originated solely in a compression of the uterus on the neck of the bladder, in its attempt to emerge above the brim of the pelvis, producing a painful ischuria. Under such circumstances, we believed there was a possibility of relief, by evacuating the contents of the intestinal canal, and by her continuing, as far as possible, in a recumbent posture, which would favour the ascent of its enlarged fundus above the promontory of the sacrum, and its escape from the confined parietes of the pelvis.

Various cathartic medicines and enemas were daily prescribed, which produced their purgative effects, without affording any mitigation of her distress. On the 6th of September, she had a profuse evacuation of a watery fluid from the vagina, which announced an approaching abortion. Cordials, cinchona, and the compound tincture of lavender were given for a few days to support her strength, and her attendants waited for the expulsion of the fœtus as the only source of effectual relief of the most excruciating torture.

For the next succeeding six days there was no perceptible variation in her appearance or symptoms. She passed but a small quantity of urine at a time, and that only by being supported by her arms in nearly an erect posture. It was seldom voided in an uninterrupted stream, but was expelled in sudden jets by the most forcible exertions.

Her relations having been made acquainted with my opinion of the probable nature of her case; and being seriously alarmed at the continuance and obstinacy of her disorder, became anxious that I should again visit her, and satisfy myself respecting my suspicions. I complied with their wishes on the evening of the 12th of September, and found her in a situation, than which no description of suffering could be more deplorable. The pain and tenesmus of the abdomen and lumbar region were almost insupportable, accompanied with a soreness, which was aggravated by the most gentle motion;—she complained of great thirst,—nausea,—impaired appetite,—frequent pulse,—hot and dry skin,—swelling of the labia,—and a sense of weight and distention in perineo. She had not voided any urine for eight hours, nor had a stool for the last twenty-four hours, but had taken that day several small portions of the submuriate of mercury, jalap and the succinic acid. By applying my hand to her bowels, I could distinctly feel the enlarged and distended bladder extending nearly to the scrobiculis cordis. I communicated to her my suspicions of the nature and danger of the case, and urged the necessity of an examination, as the only infallible criterion of the identity of the disease. Her fears now yielded to her anxiety for relief, and she complied with my request, without further hesitation.

I requested Dr. Thaxter to make the necessary examination, that my assertion should not be the only evidence of the fact, and that there might not remain any doubt on his mind respecting the disease. He arose from his seat perfectly satisfied; after which I introduced my finger into the vagina to search for the os uteri, which was so far raised and turned up under the ossa pubis, as to be beyond my reach; and the back part of the vagina was nearly protruded out of the vulva by the reflected fundus of the womb, in a manner which rendered the introduction of the finger difficult and painful. The uterus presented itself to the touch per anum like a hard tumor occupying the whole inferior space of the pelvis, compressing the rectum, and distending the perinæum. This examination left us no longer to reason from vague conjectures, but reduced the case to that certainty, from which it was impossible for us to mistake our duty. A large injection was given to assist and expedite the operation of the laxatives which she had taken. After waiting an hour the injection was returned, succeeded by three copious alvine evacuations, and an involuntary discharge of a small quantity of urine. She was now placed upon the foot of the bed, with her hips raised in a position favourable to the introduction of the catheter, which I attempted by slipping the finger of my left hand up the vagina to remove the pressure of the uterus upon the urethra, and with my right hand passed the instrument without any difficulty. I drew off about three quarts of thick, dark coloured and very fœtid urine, which afforded immediate relief, but the sudden subduction of so long continued pressure on the viscera of the abdomen, and their great veins, together with the feeble and impaired action of the abdominal muscles and diaphragm, the accumulation of blood in the vessels was so accelerated that she instantly fainted. The debilitated state of the patient, who appeared to be exhausted by her long protracted misery, compelled us to desist from any further attempts to reduce the uterus, at the present.

September 13th, at two o'clock in the morning, she was placed across the bed on her knees, upon several pillows, with her head reclined and firmly supported by an assistant, who stood on the opposite side of the bed, while two additional attendants, by applying their hands to her hips, prevented her from slipping. As there was no expectation of being able to avail myself of any advantage by drawing down the os tincæ from the pubes; I introduced one finger into the anus only with which I made several gentle efforts in different directions to press backwards and upwards the fundus uteri. This first attempt proving ineffectual, I introduced a second finger per anum, which produced so much pain and distress, that she desired me with all the earnestness of entreaty to desist, and leave her to her fate. But I encouraged and consoled her, at the same time continuing my endeavours with a gradual and increased exertion of force, until I felt the bulky fundus recede; I then instantly passed two fingers of my left hand up the vagina, and seized the os uteri, which now presented, and was so far dilated as to admit the end of one of my fingers. By pulling down the uterine orifice from under the pubes with one hand, and by pushing up the fundus with the other, I had the satisfaction in a few minutes to accomplish the reduction.

He only, who has witnessed at the bed side of the sufferer, the agony of a retroverted uterus, can form an adequate conception of the deplorable state, to which it reduces the patient. The pain and tenesmus with which it is attended, are seldom confined to the displaced organ of generation only; but are extended to the whole internal viscera of the pelvis. The uretha is necessarily distorted from its natural direction by the elevated orifice of the womb, which is pressed forward upon the os pubis in a manner which interrupts or totally obstructs the flow of urine. The suffering is aggravated by lancinating uterine pains, resembling in frequency and force the spasmodic contraction of the uterus during the progress of labour; produced by the reflected fundus of the womb compressing the rectum. We may indulge our imaginations in solitude, but it is only the presence of misery which makes a durable impression on our minds, and interests our feelings and sympathy. It is under circumstances like these the physician feels the high responsibility of his profession; and the gratification derived from the success of a well conducted operation, or the effectual relief by an appropriate remedy, is scarcely surpassed by the happiness and gratitude, which is expressed on such occasions by the wretched victim of the disease.

Having completed the reduction, the patient was immediately placed in bed, in a state of perfect exemption from distress and anxiety, and left to the charge and management of her attending physician. About an hour after my departure the fœtus was expelled by one trifling gravitating pain, and no unusual hæmorrhagy ensued. She passed a comfortable day until five o'clock in the afternoon, when I received a sudden and anxious call to visit her. I found her complaining of equal distress as on the preceding evening; the abdomen full and tense; and a constant and urgent desire to gratify the demands of nature, without the power to obey its calls. I passed the catheter, and drew off two quarts of urine of the same quality and appearance, as was drawn off in the morning. After so long distention of the urinary bladder, it was probable, that its muscular coats were so thickened, and its fibres so far extended beyond their natural length, as to lose their contractile power, and to render a repetition of the introduction of the catheter frequently necessary. But the distance she resided from my house made it difficult for me, with my other engagements, to afford her assistance so often as the peculiar exigency of the case required.

September 14th. I visited her at 7 o'clock this morning; introduced the catheter and drew off two quarts of highly fœtid, brick coloured urine; and at nine o'clock in the evening, I again waited upon her, repeated the operation, and took three quarts resembling in appearance and odour that which was drawn in the morning.

September 15th. She had passed an indifferent night, having but few intervals of ease from the most excruciating tormina and distress. I passed the catheter at five o'clock in the morning with much difficulty, and drew off three quarts of urine, in every respect resembling the last discharge.

September 16th. My professional engagements had prevented me from seeing her for the last twenty-four hours. When I visited her this morning, I found her much dejected; great prostration of strength; slight nausea at the stomach; restless;

and her countenance pale and meagre. In the course of the day the catheter was twice introduced, and five quarts of urine evacuated. At the earnest solicitations of her friends, accompanied with her intreaties, I consented to remain with her until the issue of the case should be determined.

September 17th. A more restless night; the unremitting severity of her distress interrupted her repose, and the little sleep she was permitted to enjoy was short, broken and unrefreshing. Took but a little nourishment; complained of great thirst; often sighed; frequently called me to her bed side with a voice plaintive, full of tenderness and distress, imploring my assistance, which when offered, was instantly rejected. I introduced the catheter three times, with much difficulty from soreness of the parts, and drew off about six quarts of urine.

September 18th. There was no abatement of her distress; her groans, though feeble, were constant,—and her exhausted strength; slight delirium; tremulous voice; indistinct vision; deafness, want of perception; frequent sighing, moaning, and difficult deglutition, indicated her approaching dissolution. I deemed it expedient to pass the catheter twice, and at each operation I drew off two quarts of very fœtid urine. Considering my assistance no longer necessary, I took my leave in the evening, and she expired the next day.

MEMOIR

ON SOME

DISEASES OF THE HEART.

BY THE CHEVALIER PELLETAN,

CHIEF SURGEON OF THE HOTEL DIEU, IN PARIS.

[Translated for the New England Journal of Medicine and Surgery.]

It is easy to perceive in reading the observations which I now lay before the public,* that I have been long occupied in the collection of their materials. I have made, and ought to have made, examinations of bodies without number, and rarely have I failed to examine the heart, whatever might have been the disease, or the motive for examining the body. I have therefore met with many diseases of the heart, of its membranes, and the surrounding parts. The result of my observations is, that most commonly the symptoms of these diseases are equivocal; that they run into each other by the very symptoms, which seem to characterize them; that in a great number of instances, many of these affections exist at the same time, and it is impossible to say which is the most ancient; which is cause and which is effect; finally, it often happens that the existence of an apparent organic disease of the heart leaves no traces of such disease in the dead body, so that we are compelled to attribute to a general or particular spasmodic affection, those symptoms, which in other cases, have been traced to an alteration in the structure of the heart.

A melancholy and discouraging circumstance in these complaints, is the impossibility of affording effectual aid, in a disease, never known in its commencement, and marked by equivocal symptoms, even when confirmed; which exists in an organ, always in action, and reciprocally dependant on all the organs, all the functions and all the movements of the animal economy, as well as all the moral and physical affections. Whether the disease has been recognized, or whether it has been confounded with others, which it resembles in its symptoms, we shall always be confined to the alleviation of these symptoms; and it must be allowed that in a great number of other diseases, the art of healing is confined to this, especially, when it has to contend with chronic diseases.

---

* Clinique Chirurgicale. Paris. 1810.

In this point of view, however, medicine is still of sufficient importance to solicit our application, and support our zeal in the search after truth. These are the motives, which have induced me to publish some of the observations I have made on diseases of the heart.

Note. While we have thought proper to give M. Pelletan's introduction to his valuable cases, we deem it necessary to express our dissent from the principal opinions he has advanced in it. 1. The *common* existence of an extreme obscurity and 'running into each other,' of the symptoms of these diseases, we cannot admit. The symptoms of an organic disease of the heart, are, perhaps, as strongly and as distinctly characterized, as those of any chronic disease we are acquainted with. For proof of this, we shall appeal to the practitioners of this country, who, since these diseases have been understood among us, have distinguished them during life with great precision, and verified their opinions by an examination of the dead body, in an unusual number of instances. Exceptions from this well marked character, there certainly are. They are of two kinds. One is, when the symptoms of the complaint in question, very much resemble those of an organic disease of the heart, and yet arise from a totally different cause. Such cases are rare. We have recorded one in the second number of this Journal; but this, and other similar cases, so far from overthrowing the general doctrine of discriminating symptoms in these diseases, do actually confirm it. There is another species of cases, in which the symptoms are equivocal. In persons half exhausted with debauchery, with care, &c. especially after the middle period of life, we find symptoms somewhat resembling those of diseases of the heart; but very imperfectly and faintly marked. Such cases are embarassing; but they exist in probably quite as great proportion, in other diseases. 2. Organic diseases of the heart are not to be distinguished in their early stage, says M. Pelletan. We are disposed to believe that this arises more from want of attention to the symptoms, than to a deficiency of

FIRST OBSERVATION.

State of inertia or palsy of the four parts of the heart.

A man thirty six years of age, an Irishman by birth, five feet seven or eight inches tall, was of an athletic frame, and a countenance strongly coloured. His character and his passions were in exact relation to his organization. Watching and play, women and good cheer, hardly sufficed for his prodigious activity.

Carried away by the revolutionary torrent, he had received an important mission to Saint Domingo, about the end of the reign of Louis XVI. The system, which followed, extended almost immediately to the place of his mission, and caused him the greatest difficulties and the most frightful calamities. Brought back by authority to France, he was three times cited before the revolutionary tribunal. It is said that he owed his safety, in this triple danger, solely to the vigour of his eloquence; his commanding manner, and the power of his voice, rebuffed the sanguinary cowardice of this tribunal.

A more favourable horizon appearing in France, our man attempted to indemnify himself for his losses. Numerous and urgent wants stimulated his passions, so that he merely changed the nature of his torments by want of success with a government, whose character was moderation, and whose interest it was to remove violent people. He at last, however, obtained a pension of 12,000 francs, which, being given without good

---

them. 3. M. Pelletan agrees with M. Corvisart in considering these complaints beyond the reach of medicine. If it shall hereafter appear to be true, that the early stage of organic diseases of the heart may be often distinguished, it will probably be allowed that such diseases may, in that stage, be cured, or at least permanently arrested. The probability, or even the possibility of meeting such cases, is alone sufficient to excite an interest in every thing that relates to the subject. But we hope and believe that important discoveries are to be made in the discrimination, cure, and prevention of this great and interesting class of diseases. At present, we have not undertaken to confute the opinions of M. Pelletan, but simply to express our dissent from them. EDITORS.

reasons, was taken away from him, on the death of the patron who had procured it. This last misfortune overthrew our colossus.—He has told me an hundred times, that on hearing the news of his loss, he immediately felt a dreadful weight in the chest. His respiration became fatiguing, and the pulsations of his heart assumed an irregularity, which had no interruption during the two years and an half that he survived his misfortune.

Being reduced during this long space of time to betake himself to the profession of physician, which he had formerly embraced, he exercised it with as little honour as profit. Want, and the torture of finding resources, which were neither delicate nor productive, disputed for the reliques of an existence, which was devoted to despair, and a prostration of moral and physical power, which formed an astonishing contrast with the former vigour of this individual.

The habitual character of his pulse was quickness, weakness, and irregularity; the pulsations of the heart were felt only in the usual place. The face was rather violet coloured than florid. Oppression was the habitual feeling produced by respiration. The appetite kept up, although the patient ate indolently. The emaciation, which was never extreme, seemed to depend less on physical than moral causes. In this state the patient dragged out his existence for more than two years. He habitually used antispasmodics, and sometimes had recourse to bleeding, which did not relieve him. At last the respiration became more difficult, and the spasms of the heart insupportable; the patient was compelled to keep his chamber, and afterwards his bed; the feet and legs swelled; no position of the body relieved his respiration; a spitting of blood took place, which relieved the patient at first and induced him to apply leeches to the breast. This symptom soon recurred without the former good effect; but the irregular pulsation of the heart produced a distress approaching to death. At last this man sunk on the 23d May, 1806, two years and five months after the fatal event, which had determined the existence of his disease.

On examining the body the following appearances presented themselves;

Externally, bluish and reddish ecchymoses along the right side of the face and the body; little œdema of the lower extremities, and traces of bloody mucus from the nose and mouth.

The chest being struck on the right side did not resound, and had a slight œdema. On the left side the sound was full and natural.

On opening the chest we found that its right cavity contained about a pint and an half of water; and the left only half a pint. The lungs were sound, not adherent to the pleura, and of natural colour; the inferior lobes on each side were bluish, increased in bulk, and their vessels unusually full of blood. These appearances were most strongly marked in the right lung, which was the most weighty, though the admission of air had not been prevented.

The heart, covered by its pericardium, was in its natural situation. The pericardium of a natural and healthy thickness, without any adhesion to the surface of the heart. It contained about four ounces of serosity.

The right cavities of the heart and the venæ cavæ were more dilated than common, without being absolutely aneusrismal. They contained a moderate quantity of blood in the form of coagula. The pulmonary artery and veins were perfectly healthy.

The left auricle, ventricle and the aorta were healthy. The auricle and ventricle contained as much blood as those of the right side.

But what was very evident, and which I had never before witnessed, was the state of flaccidity of the whole substance of the heart. The parietes of the cavities fell together, and the flesh of this organ might be compared to the pale and shrunken muscles of an old woman: there was an astonishing contrast between the flesh of the heart and that of the other muscles of the body. I do not hesitate to believe that the heart was struck with a kind of palsy, and that its feeble, precipitate and irregular contraction was the effect of an action not sufficient to disembarrass it of the blood, which flowed into its different cavities.

It is very surprising that such an organic derangement had not occasioned an unnatural dilatation of all the cavities of the heart; that it was not followed by hardening of the lungs, dropsy of the pleura, of the pericardium and even of the whole body; for it must be allowed that the water we found effused in the cavity of the chest, was not in proportion to the disease of the heart, and even not sufficient to cause death.

I believe, and every one will agree with me, that death resulted from the total palsy of the heart.

Let us remember what the patient had said during the whole course of his complaint; he had felt at the instant the loss of his pension was announced, an enormous weight in the chest. Patients struck down with a violent affection, paint what passes in them with sufficient truth. One feels a weight and sinking which represent the inertia of the heart, as in the above case; another says, that he has the heart tied up or constricted, and very well-expresses the reaction of the pericardium on the heart, when blood with difficulty penetrates the vessels of the lungs; some say they feel a weakness accompanied with pulling or drawing on the heart, in the state of inanition brought on by an abstinence not alleviated by drinks, &c.

The opening of the abdomen exhibited a kind of disease, which grief and melancholy very often produce; the biliary vesicle was much dilated with a blackish bile, and contained as many as twenty biliary concretions of different sizes, the largest being as big as a filbert. The liver was perfectly healthy.

It is a common opinion that gall stones are found in the vesicle of persons, who commit suicide. I have ascertained this fact a great number of times, in subjects, who had been induced to self murder by long distress; but never in those, who had committed it in consequence of sudden grief and despair, such as takes place after losses in gaming, or from disappointed love. The languor, in which our man lived, more than two years, explains the formation of his gall stones.

No other organ was disordered. The functions of the brain had not been disturbed during life; nor did we find any thing wrong in this organ, or its membranes.

The man, whose history we have related, might have been affected with an inflammation of the heart during the active part of his life, and thence had a disposition to be violently affected by such a cause as produced his disease. We shall now see an example of this inflammation of the heart, brought on by the effect of violent passions and emotions.

SECOND OBSERVATION.

Inflammation of the heart and other organs of the thorax and of the abdomen brought on by violent passions and excesses in eating and drinking.

All Europe has resounded with the oratorical talents as well as the impetuous character of Mirabeau. I am far from wishing to imprint a stain on his memory; but it is necessary I should say a word of his private conduct and his character, in order to point out their influence on the disease, which proved fatal to him.

Cabanis, a physician of talents, was his intimate friend. He attended him in his last illness. He has left us a history of it, which does as much honour to the sagacity of the author, as to the tenderness of heart, with which he speaks of his friend. He has, above all, a desire to exculpate him from the various charges made against his character; and yet, compelled by the force of truth, he accuses Mirabeau beyond what is necessary, to preserve him the reputation of a man, whose passions were increased to an inordinate degree, and whose immorality led him to sport with all opinions, and to defend them all by turns, when the interest of the moment, the desire of shining, or any other motive induced him to attempt to persuade to what he wished to obtain.

The result of such a character was, that Mirabeau possessed a factitious or deceitful eloquence, and sensations at command. He supplied the place of that vehemence, inspired by a strong conviction of truth, by a force of pulmonary organ, which had no example, and by contortions of the muscles of the face and whole body, which rendered him hideous to behold at the tribune; at the same time that, according to my own feelings, he never carried less conviction into the mind of his auditors, than when he most attempted to be eloquent.

The abuse he made of the pleasures of the table, was, but too often, his Apollo; and this regimen, which he was accustomed to, rendered him most amorous of women, to whom he devoted all the time he could spare from the necessity of appearing in public.

Mirabeau, being named president of the constituent assembly on the 29th January, 1791, entered on a career, in which he abused his powers and his resources beyond all measure. *It was necessary*, says his panegyrist, *to employ very active and very speedy methods of putting him in a state to terminate his fortnight. He had oppressions, diaphragmatic contractions, pains at the superior orifice of the stomach, which terminated by bilious dejections, either spontaneous or provoked by means of the waters of Sedlitz. Baths sometimes diminished them.*

One day, on stooping precipitately, he experienced the most severe agonies in the precordium, which almost made him faint. Perhaps this was the first indication of that disease of the heart, which was discovered after his death; but Cabanis took little notice of it, *knowing*, says he, *how obscure these diseases are, and how problematical their existence is, even when announced by constant, palpable and unequivocal symptoms, and how hazardous is the treatment of them. However, the habit of committing imprudences increased every day, and these approached more and more near to each other.*

At this epoch, Mirabeau had a first attack of colic, which was relieved by baths and terminated by bilious evacuations. A second assumed a very marked spasmodic character and terminated in requiring an emetic and some saline purgatives. Immediately after this colic, the sick man committed an excess at table, in a nocturnal repast; and he did not stop at this fault already sufficiently great. It was on the night between Saturday and Sunday of the 27th March; he had a colic attended with inexpressible agonies; and in spite of all the representations that were made to him, he insisted on going to the assembly, where they were the next day to discuss the affair of the mines; and he mounted the tribune five times, to obtain by his eloquence a decision in favour of his opinion. It was, according to the expression of Cabanis, the song of the swan.

On returning home, Mirabeau experienced the most atrocious pains; they had seized the great curvature of the intestine colon; they extended with violence under the sternum and reached all the external and internal dependences of the chest, diaphragm, precordial region, mediastinum, breasts and clavicles. Every where they produced the sensation of a talon of iron, which violently tore the sensible parts.

The anxieties were very great; the respiration was so impeded, as to threaten instant suffocation. The countenance was bloated from the arrest of the blood in the lungs, the pulse intermittent and convulsive, the extremities cold, and the patient making vain efforts to restrain the groans, which distress extorted from him. His physiognomy exhibited the impression of fatal diseases; never did a patient appear so decidedly struck with death.

In this state of universal inflammation, he had a bleeding from the foot; large blisters were applied to the full part of the leg and strong sinapisms covered over all the lower part of these extremities. The pulse became more regular, the respiration more free, and he had a copious sweat. Wednesday morning the symptoms reappeared, the pulse was quick and hard, the head heavy and painful; the arterial, precordial and diaphragmatic spasms returned. The treatment was restricted to simple diluents; but very soon, the pains increased, the spasms extended, over the whole chest, the right shoulder blade, clavicle and the region of the diaphragm. The pulse became intermittent and convulsive. The applications of cantharides and mustard were repeated, but became insupportable from the pain and were removed. The countenance turned yellow, the tongue became coated; and this decided the indication to evacuate the bile by the Sedlitz water and whey. The commotion in the system abated; but in the evening increased with greater or less violence. About three o'clock in the morning, the pains began to display the same *ferocity;* the pulse had the character of intermittence and convulsion; the suffocation, the spasms and all the frightful train, which at first accompanied them, returned with rapid strides. The bleeding in the foot was repeated and the application of sinapisms, containing cantharides; the blisters in the legs were irritated afresh, and new ones applied to the thighs; finally, a pill containing six grains of musk was given every half hour, till the patient had taken from thirty to forty grains.

This last accession continued a long time and left the patient with the aspect of death.

It was thought that the alternatives of relief and paroxysm denoted the existence of an intermitting malignant fever, and cinchona was resorted to; but the difficulties were increased by it, and the patient vomited after the third dose. The respiration now became worse every instant, together with spasms and the most insupportable pains, and the most frightful physiognomy. The result of a consultation with M. Antoine Petit was the application of more blisters to the arms, and the administration of half a grain of camphor, every half hour. At the end of six hours, the wounds of the blisters were cupped and washed with volatile alkali, which was repeated a number of times. The pains were increased to a degree impossible to be expressed. The patient in agony begged for opium; and when he could no longer be heard, he collected strength enough to write: *sleep.* It was necessary to appear to yield to his entreaties; and while a calming potion was prepared, he, on the sixth day of his disease, expired.

The picture that I have sketched of the symptoms of the disease of Mirabeau is extracted, word for word, from the relation of his friend Cabanis. I did not myself see the patient, but hearing every day a particular account of his situation, I could not avoid recognizing the existence of a most violent inflammatory disease; and which ought to have been combatted by the flow of rivers of blood. I know not what idea his friend had formed; what system of humours, fixed in the affected parts, he had adopted, on the pretext that the patient had been subject to opthalmia and acute pains of the bowels. He, however, states in many parts of his recital, that he attributed the opthalmia to an old venereal taint, for which he was on the point of administering a methodical treatment; and the affections of the bowels to the excesses of every kind, in which Mirabeau indulged. But it must be observed, that in the whole relation, Cabanis takes as much pains to conceal from himself the inflammatory disease, of which he has described the most characteristic symptoms, as he does to praise and extol his hero, while he depicts all the vices of his character and conduct.

The fatal effect of the prejudice of the physician was, that fresh fuel was heaped on the flame. The body was covered with blisters and vesciations to a degree, that no case in medicine ever indicated. Saline purgatives, camphor, musk and cinchona were administered internally. It is well to observe, that what kept up the delusion of the physician, was the momentary relief, which took place, after the first application of the external irritants. There is no doubt that these violent, factitious irritations might for a short time suspend the principal irritation; but this increased afterwards with a violence proportioned to the addition of irritating causes; and if we read the account with attention, we shall be convinced, that the apparent success was illusory, and perceived by Cabanis alone. It must be said, in his justification, that he felt two lively an interest in the health of his friend, whom he loved with enthusiasm, to possess that tranquillity of mind, without which a physician cannot study, observe, nor recognize the truth.

I was desired to examine the body of the deceased; but here also I may admit Cabanis to speak, for he gives a faithful recital of what was observed.

" The stomach, the duodenum, a great part of the liver, the right kidney, the diaphragm, and the pericardium, exhibited marks of inflammation, or rather, in my opinion, of congestion of blood. The pericardium contained a considerable quantity of thick, yellowish, opaque matter. Lymphatic coagulations covered the whole external surface of the heart, except the point. The cavity of the chest contained a little water."

"Certainly the state of the heart and the effusions in which this organ floated, may be considered mortal; but I believe that death was immediately determined, by the affection of the diaphragm; and I have ever attributed this affection, as well as that of the heart, to the rheumatic, gouty, wandering humour, which we from the beginning had considered as the cause."

Cabanis might regard the pretended gouty humour, as the cause of the inflammatory disease; but it did not the less possess this inflammatory character in the very highest degree. All the organs named were inflamed; one would have said that a poison had corroded the stomach and duodenum; and the intestines were empty, as happens in such a case. The heart and pericardium were red with inflammation; independently of the mass of lymphatic concretions, which constantly characterize the inflammation of this organ; that of the liver, right kidney and surrounding cellular membrane was much less; but it is certain that the state of the diaphragm alone, would have explained the atrociousness of the pains, to which the patient was a prey. The right side of this muscle was contracted, just as if it had preserved, after death, the state of most powerful action.

It will be admitted that, instead of having recourse to an occult cause to explain so violent and extensive an inflammation, the origin of the disease may be imputed to the life, which Mirabeau had led, previous to the invasion of his last illness, to his excesses of every kind, to that even, which he committed at the tribune of the assembly, when he mounted five times in one sitting, and when he was already gravely attacked by the disease, to which he fell a victim.

The conclusion of Cabanis is well worthy of the warmth of imagination, which dictated his history. *I declare candidly,* says he, *that on seeing the same series of symptoms again, I should form the same judgment, and should employ the same* *methods of cure.* For my part, I conclude that Cabanis was the Seïde of his medicine, and Mirabeau the victim of the fanatic enthusiasm of his physician.

I cannot reproach myself for having given to the history of the disease of Mirabeau, the high degree of importance, it has seemed to me to possess. It is one of the most important and instructive facts that any disease of this nature can present. I had formed a design, at the very period of the event, to submit the relation of Cabanis to a critical examination, proportioned to the importance of its object; but considerations of respect towards so excellent a character arrested my pen. Now that he has payed the tribute to nature, and that Mirabeau is no longer an object of revolutionary admiration, I fulfil the obligation I had contracted, of employing for general instruction all the interesting facts, of which I can render an exact and faithful account.

We may draw a curious comparison between Mirabeau and the subject of the first observation. The latter, possessed of physical powers, far greater than those of Mirabeau, had nothing like his genius and the force of his character; and he allowed himself to be beat down by an event, against which Mirabeau would easily have found resources. I have already remarked, that this man might have been attacked with inflammation of the same kind, as Mirabeau, in the circumstances when he had to defend his life by the power of his eloquence; but he sunk under a palsy of the heart; the effect of profound grief. On the contrary, Mirabeau fell a victim to the violence of his temperament, of his passions, and of the abuse he made of all his faculties.

COLLECTIONS OF MORBID ANATOMY.

No. I.*

BY J. C. WARREN, M. D.

Inflammation of the pericardium.

In the month of February, 1813, a number of individuals in Boston were attacked with violent pains in the side, or breast, or upper part of the abdomen. These pains were, in many instances, like those from tearing or rending asunder the parts affected. They were rarely accompanied with elevation of the pulse, and in the intervals of pain, the pulse was commonly slow and always feeble. The affections of the abdomen were relieved in two or three days, by purgatives and blistering; those of the thorax, when slight, by bleeding and blistering; but a number of the latter assumed a most violent and terrible character, and proved fatal to the patient, in three or four days. At the period, when these disorders were appearing, the two following cases occurred.

The subject of the first was a distinguished gentleman of the clergy, who was possessed of a most placid and amiable disposition, which no event could disturb. His health had been good, for three or four years, excepting a degree of indigestion, not sufficient to induce him to mention it frequently. At the period of his attack, he had been dining in company and had retired to another room, when he was suddenly seized with a most violent pain in the breast, that threatened immediately to deprive him of life. This pain extended from the breast to the arms. He could express the sensation only by saying, that the limbs seemed tearing and twisting from the body. Sweat poured, in streams, from every part, while the skin was universally of a death-like coldness. He had an emetic, which produced very copious evacuations, and was followed by a mitigation of the pain. The next day, the patient seemed better, and was able to converse; but it was evident that his constitution had received a severe stroke. He said that there was some extraordinary difficulty about his heart, and requested that, after his death, an examination of that organ might be made. His tongue was coated of a yellowish white colour. His pulse extremely irregular. No heat of the skin, although he sometimes complained of a sensation of heat. This day he had a cathartic, and remained free from any severe pain till toward evening, when he had another attack. On the third day of the disease, he had repeated paroxysms of the most excruciating pain, which brought on a convulsive action of the whole system and a fainting, that was followed by relief from the distress. His pulse was now quite imperceptible. His muscular powers were still so considerable, that except to the eye of the physician, the fatal tendency of his complaint was not very perceptible to himself or others. It was announced to him that he must die. He expressed a little surprise at this intelligence; but exhibited no emotion of alarm, and calling his family about him, he gave directions respecting his affairs and his funeral, and having taken leave of them, tranquilly resigned himself to his fate. After this time, he lingered still thirty hours longer, without any remarkable symptoms, for the fatal blow was already struck. He remained, almost to the last, in a semi-recumbent posture, and possessed the faculties of mind to the last moment.

---

* The editors have established this department, with a hope of preserving the record of many valuable observations in morbid anatomy, which would otherwise be forgotten and lost. As no such observations can be entitled to credit, without the name of the observer, we shall consider it necessary, in every instance, to state our authority. The author of this communication remarks, that neither of these two patients were attended by himself; but that he made the examinations after death.

EDITORS.

It is impossible to avoid comparing the circumstances of this case with those of the celebrated Mirabeau, described in a former part of this number. They both perished of the same disease. But the manner in which the atheist expired excites horror, while the death of this truly christian clergyman, inspires us with admiration.

The body was examined, on the day after death, agreeably to the request of the deceased. No remarkable external appearance presented itself. In the cavity of the chest, the lungs exhibited a natural and healthy appearance; and their vessels were very moderately charged with blood. The mucous membrane of the bronchiæ had a slight appearance of inflammation. The pleura was not inflamed, but exhibited a net work of vessels in various parts, which probably would have gone on to decided inflammation. The cavities of the pleura contained a little serous fluid. The loose pericardium was covered with a uniform, but delicate blush, deepest near the diaphragm. The pericardium, which closely invests the heart, exhibited marks of violent inflammation. It was generally of a red colour, but this colour became of a livid hue on the surface, next the diaphragm, like the colour of parts tending to gangrene. This membrane was thickened and in many parts covered with coagulated lymph. A small quantity of serum, mixed with semi-purulent lymph, was contained in its cavity. The substance of the heart was swelled and remarkably tender. It was covered with fat. None of its cavities were enlarged. They were all filled with blood, which was principally fluid. The semilunar valves of the aorta had the hardness of a fibro-cartilage, and in some places were in a state near ossification. The inner coat of the aorta was brittle and contained a number of hard specks. The organs in the cavity of the abdomen were in a healthy state, and exhibited no very remarkable appearance. The omentum was loaded with fat. The veins of the stomach and intestines were very conspicuous, and appeared flaccid, as if they had been over-distended. The mucous coat of the stomach exhibited a slight redness. Its cavity contained fluid and a considerable quantity of solid matter, which seemed to be half digested animal food. In the midst of this, was a large, living, round worm.

Inflammation of the pericardium and inflammation of the heart should, no doubt, be considered, as one disease. They are both inflammations of the serous membrane. It seems probable, however, that an inflammation of the close investment of the heart will be marked with a more decided character, than that of the external pericardium. Most of the symptoms of this disease are exhibited in the case related, with the most formidable and strongly marked aspect. The distress about the diseased organ, the peculiar and agonizing pain in the arms, the irregular and sinking pulse, and the disposition to fainting, are not to be found combined in any other acute disease. One important symptom was absent, the febrile affection which accompanies inflammatory diseases. This peculiarity may be explained ; for it is this absence of febrile appearance, together with the violence of invasion, the suddenness of termination, and the livid aspect of the inflamed parts, which induce us to refer this disease to the epidemic, that prevailed in various parts of the country, and just showed itself in the metropolis. We cannot attribute any important consequences to the diseased state of the valves of the aorta.

Inflammation of the pleura, with ulceration.

This case is not to be considered as a common inflammation of the pleura, although we have assigned it that name. The symptoms, as well as the morbid appearances, demonstrate a malignity of disease, quite peculiar, and which would perhaps entitle it to a very different name, from that assumed. The invasion of disease was as sudden and violent, as in the former case. The subject was a gentleman, in the prime of life, possessed of a most powerful muscular apparatus, an ample frame of body, and an iron constitution. About two years before his death, he felt some dyspeptic symptoms, which, among other unpleasant sensations caused a vertigo, extremely alarming to the patient. He became hypochondriac, and conceiving that exposure to the air might be pernicious, he confined himself almost wholly to his house, and totally relinquished his accustomed exercise; while, at the same time, his appetite being unimpaired, he satisfied it as freely, as though he had no complaint. This course of life undoubtedly increased the symptoms of indigestion, which only confirmed him in the mode of living he had adopted. Yet it is remarkable, that while he laboured under these false and melancholy impressions, respecting himself, his wit, which was natural and ready, scarcely ever languished. After remaining in this state, nearly two years, contrary to his usual custom, he quitted his home, in the evening, to visit his friends in the adjoining house. This slight exposure was the cause of his disease and death; so much was his constitution enervated by long confinement. In the night, he was attacked with an agonizing pain in the left side, which frequently remitted, or, as he thought, he must have expired from its severity. Various applications were made on that night and the following day, the principal of which were evacuants, and liquid cantharides to the seat of pain. He at last got relieved, and was well enough on the third day to make considerable exertions; but on the evening of that day the pain returned, with dreadful violence. He had also a cough, considerable fever, and an incessant inclination to pass urine, from the absorption of the cantharides. To alleviate his sufferings, very frequent doses of opiate medicines were given that night and the following day, but so long without effect that he had taken a considerable quantity before obtaining relief. At last he slept and remained quiet for the night. In the morning following, when it was expected he would be found better, he did not awake. Efforts were made to rouse him, but in vain; the intellectual powers were irrecoverably gone. When he was raised in bed, an enormous tumour was discovered on the side of the neck, hard as a stone, and filling the neck almost from the ear to the clavicle. In the night he expired.

On examination of the body two days after death, the first thing observed, to the astonishment of all, was the disappearance of the great tumour on the neck. No vestige of it remained in the part, where it had been seen, but below the inferior jaw and extending parallel to it, there was a slight and scarcely observable thickening of the cellular membrane. On cutting into this cellular membrane, it appeared firm and somewhat *crisp*. The parotid gland of the left side was immediately examined, but its appearance was perfectly healthy. Next, the submaxillary gland, which was a little enlarged, harder than usual, and internally of a dark colour. The other appearances, on the surface of the body, were a yellowness of the skin, and a thick deposition of fat in every part of the cellular membrane. The thorax being struck, resounded every where, except in the part, which was the seat of pain, and here the sound was dull. The muscles, cut into, were generally of a darker colour than common, but not so conspicuously livid, as in cases of the disease called petechial fever. The veins of the brain were very full of fluid blood. The arachnoid coat contained a few spots of coagulated lymph, and between this and the pia mater, was a little serous fluid. The substance of the brain was quite soft, and its medullary portion was stained, when cut, with the fluid blood which oozed from its small vessels. The lungs were no sooner exposed than they were seen to be the seat of a very peculiar appearance. The right lung had six or seven spots, very similar to those produced on the skin by the operation of a moderate caustic. These spots were between an inch and the eighth of an inch, in diameter. In all, the edges were whitish and elevated; in some, they were seperated from the surrounding pleura. The substance of the lungs under these spots was very hard and red to some depth. The left lung adhered to the pleura of the ribs for an extent of three inches. When this adhesion was separated, a very thick layer of coagulated lymph was exposed, between the pleura of the lungs and that of the ribs; and on the outer surface of this lymph, that is, between it and the pleura of the ribs was a shallow cavity, containing semipurulent liquid. Smaller adhesions and cavities were seen in other parts of the lung. At all these adhesions, the pleura was not merely dark or livid, but absolutely black, and approaching to gangrene. In the left cavity of the pleura, a quantity of liquid blood was effused.

That it was not discharged from the lungs, when the adhesion to the ribs was separated I cannot positively determine, but believe that it was effused before death. The pleura, on the surface of the left lung, was wrinkled, as if it had been exposed to fire, probably from a deficiency of its serous exhalation. The substance of the lungs was hard, swelled and gorged with blood. The heart was fat. Its cavities contained a moderate quantity of liquid blood. In other respects this organ and its appendages were perfectly healthy. The mucous coat of the stomach was uniformly reddened, but particularly in parts, where small portions of calomel were discovered. These parts were very tender, and even the whole mucous coat could be separated with great ease. This organ contained about half a pint of dark coloured fluid, like the sediment of port wine, and destitute of any remarkable odour. The spleen was four times larger than usual. This enlargement was not of recent origin; for the coat of the spleen was flaccid, thickened and of a white colour from ancient inflammation; so that there was reason to believe this organ had been much larger, than at the time it was examined. Perhaps this derangement of the spleen was the cause of the dyspeptic symptoms. The liver was lighter coloured, and harder than usual, and exhibited a granulated appearance. The gall bladder was half full of bile and contained two concretions of considerable size. The cystic duct was very much contracted, and showed the remains of three or four strictures, produced, no doubt, by the passage of gall stones, of which the sedentary habits of the patient allowed the formation. The omentum was full of fat. The kidnies swelled with fluid blood, and the urinary bladder contracted. The blood was universally very dark coloured and fluid.

I am informed that two similar cases, examined about the same time, presented very similar appearances in the lungs.

The whole of this case bears a strong resemblance to one, examined in this town, during the prevalence of the petechial fever in the county of Worcester. This case is reported in the account of that fever, published in the Transactions of the Massachusetts Medical Society.

No one will probably hesitate to call this disease a most violent inflammation of the pleura. From the common pleurisy, however, it differed, in the extreme disproportion of the symptoms of inflammation, compared with those of the latter disease. This lowness of character will naturally lead us to arrange it under the head of the epidemic, which prevailed in the early part of the season among the soldiers of the United States army, and which has since extended to various parts of the country, an epidemic, which seems allied, by some of its most peculiar symptoms, to the disease that has been known under the name of petechial fever. The most remarkable circumstance in this case, is the very sudden appearance of the tumour on the neck, and its still more sudden disappearance. This phenomenon might seem incredible, were its existence not attested by two physicians of the highest respectability.—About the time this case occurred and for some weeks previous, an uncommon epidemic had prevailed in this place. The principal symptoms were a swelling of the salivary glands, most commonly of the submaxillary; an inflammation of the mucous membrane of the tongue and mouth with numerous small, painful ulcerations; much fever, and sometimes a cutaneous eruption. The complaint continued about five days and subsided, whether medicine had been administered or not. It was, however, evidently mitigated by cathartics. In some instances, though rarely, the tumid glands suppurated. Although we cannot trace any chain of connection between this complaint and that of our case, the similarity in the glandular affection will perhaps justify the mention of it.—Physicians have often noticed the singular connexion between an epidemic disease and other disorders existing at the same time; and the influence which the former seems to have over the latter, in impregnating them, in a greater or less degree, with its peculiar character. Such a connexion we had an opportunity of witnessing in the year 1809, when the petechial disease proved so fatal in the country, and made its appearance in this vicinity and even in the town. At that time there appeared a great variety of cutaneous affections of a new and anomalous character; and I could satisfactorily observe a chain of them extending from the malignant and frightful lividity of petechiæ to the benign appearance of an ephemeral rash; while the other symptoms of disease, connected with these eruptions, were sometimes wholly different, and sometimes intermixed. Another circumstance, which was then noticed, is too remarkable to be omitted in this place. The petechial disease, in every severe instance, completely deranged the functions of the brain; and when that organ was examined after death, its membranes exhibited marks of inflammation; a quantity of serous fluid always appeared on the surface of the brain, and sometimes in the ventricles, in as great proportion, as is observed in certain cases of hydrocephalus. At the very period this disease existed, and for some time after it had disappeared, the common hydrocephalus internus was observed, with its usual symptoms, in a far greater number of instances than had been known, within the same space of time.

TWO CASES OF HYDROPHOBIA;

COMMUNICATED BY DR. R. TYTLER, OF CALCUTTA,

And published in the London Medical and Physical Journal for Nov. 1812.

FATAL CASE OF HYDROPHOBIA.

John Irwin, private dragoon, on the 6th of October, in the morning, when I first saw him, was convulsed all over his body, the muscles of his neck unusually agitated, pulse at times quick, and afterwards ceasing altogether for a short lapse; ordered him into the hospital. On being brought there, found no alteration in his symptoms, directed an antispasmodic draught; which I offered in person; this he first viewed in silence; but, when pressed to take it, and on discovering it to be a liquid, his convulsions increased with redoubled violence, sweats broke out profusely, attended with difficult respiration. He said the light caused him great uneasiness, consequently the light was excluded. He was observed to froth at the mouth, and his insuperable aversion to any thing in the form of a liquid, awoke in my mind the belief that all these direful symptoms must be connected with, or in fact be the result of, canine madness.

Unhappily on inquiry this supposition was not groundless, for the patient acknowledged his being bit, on the 15th July last, by a dog, in the barracks; his raving rather increased, but his wife, an European, corroborated the fact. I did my utmost to induce him to swallow the draughts alluded to, but without success. He was sensible to reasoning at times, and abused dogs, lamenting his situation; but nothing liquid would prove acceptable; whenever liquids were offered, he took them in his hands, attempting putting the fluids to his mouth, and immediately dashed them to the ground, and then his spasms commenced. He allowed me to bleed him; I took about fifteen oz. of blood, and bound up his arm; this produced no alteration in his aversion to fluids. Ordered an injection of three hundred drops of laudanum, and to rub in a drachm twice every hour. He expired five hours after being admitted.

On opening the body, the appearances were remarkable. The stomach was inflamed; several blood-vessels were ruptured, and the stomach loaded with bile; the intestines appeared to have undergone no change; the liver was slightly altered from its natural colour; the gall-bladder enlarged considerably and full of bile, very hot to the touch; the lungs were not changed in any manner, nor could I discover any thing preternatural in the thorax; his eyes were swelled, and the blood-vessel on the tunica conjunctiva enlarged beyond conception. On opening the head, nothing appeared to induce a belief that any part of the brain or its vessels had suffered; the tongue was swelled, and so were the fauces, and inflamed.

SUCCESSFUL CASE OF HYDROPHOBIA.

Benjamin Mason, a farrier, aged 34, was seized with violent spasms on the 7th of October, when I saw him. I found him violently agitated and screaming loudly, eight of the strongest men in the regiment were required to keep him on his cot. He clenched his fist at times, and made efforts to seize every thing he saw. In the midst of this paroxysm, he said carriages, horses, animals of every description, floated before him in the air. He was covered all over with sweat, his eyes at times staring, and at other times melancholy. He gnashed his teeth in a manner not to be described; his neck was swelled, pulse very fast, light distressing, pain in his head and temples increasing. He called for drink, but, the instant he heard them pouring water into a tumbler his wildness increased; he then beckoned for it, when it came near him he shook his hands, trembled, and shivered. I made inquiries if he had been bitten by a dog at any period, his comrades acknowledged he was. One hour after I saw him, his ravings and efforts to disengage himself from his keepers became so violent, as to render it necessary to tie him to his cot; accordingly he was secured by several coils of bed tape. I discovered he was bit on his left thumb, therefore no obscurity now remained as to the nature of his complaint. I began by bleeding him till *scarcely a pulsation could be felt in either arm.* During the operation, he made several efforts to bite me; but the quantity of blood taken away, naturally reduced his efforts. I now renewed offering the draught, which consisted of one hundred drops of laudanum in mint water; he endeavoured to reject it, but I separated his jaws by means of a small peice of wood introduced between them, and poured the draught into his mouth, which he swallowed by keeping his head in a recumbent posture, notwithstanding the efforts he made to reject it. His condition, from loss of blood, was so much debilitated, as to enable me to effect it.

In the mean time I ordered injections of three hundred drops of laudanum every second hour, and a drachm of mercurial ointment to be rubbed in every fourth hour.

P. M. 4 o'clock. Is now in a slumber; at half past five he awoke with slight efforts to separate himself from his bindings; pain in his head excruciating; shaved his head and blistered it all over; mercurial frictions to be continued; still has an aversion to fluids, used the same means as before; draught and glysters to be repeated.

P. M. 9 o'clock. Slept for two hours, and appears to be refreshed; complains of a lassitude and sickness at stomach; speaks rationally; offered him congee-water, which he kept in his mouth for some time, swallowed a little, and discharged the remainder; pulse rising; repeat the frictions; to take a pill of calomel and two grains of James' powder three times, and repeat the injections twice during the night.

8th. Pain in his head subsided; extremely debilitated, but rational; calls for drink, which, with some hesitation, he puts to his mouth and swallows, with a slight noise in his throat; pulse low; mercurial friction, as before described, to be continued; a pill of calomel, four grains, and of opium and James' powder two grains, every second hour; opiate injections to be repeated.

P. M. Pain in his forehead became excruciating, was tranquil otherwise during the day; pulse 79; a blister to be applied to his forehead; to repeat the pills three times in the night; and to rub in a drachm of mercurial ointment every second hour.

9th. Very easy; relieved from his pain and uneasiness in his head; had only one evacuation for the last twenty-four hours; castor oil, one ounce, to be taken immediately; frictions to be continued.

P. M. Gums getting tender; feels no horror at the approach of liquids; pulse rather hurried; to rub in a drachm of the ointment thrice during the night; pills to be continued; bathed his feet in warm water.

10th. Fugitive dislike to fluids; when pressed, swallows congee-water, and took one glass of wine; pulse rising and regular; gums tender; continue frictions; repeat pills.

P. M. Bathed his feet as before.

11th. No mercurials in any shape; complains of weakness; his countenance is fallen, but appearances of doing well are manifest; spits a great deal; continue pills and frictions.

P. M. No alterations; repeat pills twice during the night.

12th. Very easy; gums inflamed.

13th. Very easy; 14th. ditto; 15th. ditto; 16th. ditto; 17th. ditto; 18th. ditto; 19th. ditto; 20th. discharged from the hospital in a perfect state of convalescence, and he has since resumed his duties. (Nov. 1st.)

(Signed) F. TYMON,
Assistant Surgeon 22d Dragoons.

OBSERVATIONS BY A. BERRY, M. D.

That this was a real cure of hydrophobia cannot be doubted. To satisfy me more fully on this subject, a statement has been forwarded from Capt. Broome, commanding the detachment, depicting the situation of Farrier Mason, as stated by Mr. Tymon. Capt. Broome says that after the bleeding, Mason became somewhat composed, and held out his hand, saying, "I was bit here, Sir," and Capt. Broome states, "I plainly saw a dark spot, as of a wound, on the inside of his finger.

A certificate from Henry Jackson, sergeant, specified that he and Irwin were bit on the same day, in the beginning of August, and Mason a day or two after.

As to the treatment, it must be immediately remarked by the medical reader of these two cases, that the bleeding, in John Irwin's case, carried only to the extent of fifteen ounces, did not arrest, in any degree, the rapid progress of the disease; and that the bleeding of Benjamin Mason, continued until *scarcely a pulsation in either arm was to be felt;* saved his life by diminishing the violent action, and admitted the effect of medicines, that in all former experience, had uniformly failed.

It also appears from these two cases, and several unsuccessful ones I have seen, that the hydrophobia from the bite of a rabid animal, is of short duration; all those that I have seen having died within twenty-four, or thirty-six hours at farthest from the appearance of the disease; and Benjamin Mason was evidently nearly cured the evening of the day he was attacked, for at nine o'clock at night of the 7th October, he could keep congee-water in his mouth, and swallowed a little.

It would also appear that this disease may sometimes put on so mild a form as not to be dangerous, as appears from two other cases by Mr. Tymon; one of corporal Rice, who was bit severely in the hand by a dog about the middle of May, and another of sergeant Jackson, who was bit on the same day that Irwin was, about the beginning of August, instead of the 15th July, as stated in Irwin's case.

Corporal Rice was admitted into the hospital on the 6th of October, in the evening, for symptoms indicating hydrophobia, appearing agitated and dejected, complaining of excruciating pain of the head, refusing to drink water when offered to him, pushing it from him at the same time in a gentle manner, accompanied with a deep sigh. He walked about the room, and his ideas were somewhat deranged; refused to drink water the whole of the 6th, or even to suck limes, though thirsty. His head was blistered, and mercury used both internally and externally by friction. The hydrophobia symptoms ceased, in this case, in the evening of the succeeding day.

Sergeant Jackson, bit by the same dog, that bit Benjamin Mason, was admitted into the hospital on the evening of the 7th of October. He was one of the number that secured Mason to his cot; he then ridiculed the idea of any danger to himself. When admitted, he complained of tormenting pain in his head, impatience of light, started up and was agitated by any sudden gust of wind blowing on him, had a great flow of saliva, was much distressed and agitated at even the sight of water poured out, pulse regular, partial sweats, drowsy and melancholy, eyes almost fixed and very much inflamed. By blisters to his head, and mercury internally, and by frictions and purgative injections he was relieved, and in the evening of the succeeding day he called for food, and drank congee-water without difficulty.

These few detailed facts tending to confirm the short period of the disease, I consider of value, as giving confidence to the practitioner, and hope to the patient. By showing when the progress of the disease can be arrested, a cure may be effected.

The state of John Irwin's stomach, if solely caused by hydrophobia, would indicate the inflammatory nature of the disease, and its principal seat of action from the fauces to the stomach, rendering it probable that all irritating medicines are improper, and likely to be hurtful, until that inflammatory action is diminished. I mention this particularly, from verdigrise, in considerable quantity having been stated in an American paper, to have cured this disease; but I have seen no cases to satisfy me of the utility of this medicine, or that it was ever given with effect in any severe cases of hydrophobia.

I will make a few extracts from authors to show how remarkable the successful treatment of hydrophobia must be considered. The celebrated Dr. Fothergill published, in the case of hydrophobia from the bite of a cat, in 1774, which terminated fatally in about forty-eight hours; and, in his notes on the case, when speaking of a cure for the canine madness, he says, "the reader will find, perhaps, nothing more of certainty in this respect, than that *all the remedies*, proposed either as preventatives or cures, are found by experience to be altogether *ineffectual*."

This patient was blooded, but only six ounces of blood at first are stated to have been abstracted. He was a second time bled, as Dr. Fothergill states, standing, as his strength would bear; and in the evening the patient received his physicians with a transport of joy, describing in strong terms, the pleasure and benefit he received from the warm bath, and the hopes he now conceived of a speedy recovery. The bleeding would, in this case, appear to have been too long delayed, for he died exhausted in about seven or eight hours after, having been for a half an hour in the warm bath after it, from which, when immersed he always found great relief.

Dr. Mosely in his publication more than twenty years later, recommends the cutting out the part as the only remedy. He says, "this method of treating the bites of mad animals, if on a part where it can be used, will, I am confident, prevent their fatal effects applied *at any time previous* to the first symptoms, that forerun a general affection, which ends in hydrophobia, and admits of *no remedy.*

Dr. Darwin, in his Zoonomia, speaks of hydrophobia as a fatal disease, and considers it to resemble tetanus, or locked jaw, in its tendency to convulsion from a distant wound. This similarity between the two diseases, may suggest, under certain circumstances, to medical practitioners, the utility of bleeding carried to the length of diminishing spasmodic action, in these dangerous, and too frequently fatal, diseases, tetanus and locked jaw; and, if it is stopped when fainting occurs, no bad consequences follow, as is shewn by Dr. Fothergill, and more especially by Veicth on ophthalmia, nay, that it is less detrimental than repeated bleedings, even to a less extent.

Dr. Cullen, speaks only generally and doubtfully of any preventative or remedy for hydrophobia.

I have now, I believe, stated sufficiently to show that the successful treatment of a well marked case of hydrophobia, is an event of great import to the public and to the medical profession, and that further facts, properly detailed, either to confirm or to show the inefficacy of the practice here recommended, or to point out any other successful method, should be made known by medical practitioners, to rescue this disease from being an approbrium to the healing art; and attention should be had, on any recurrence of such an accident, to a person who has been cured of a well marked disease, to ascertain whether the poison of a rabid animal has obeyed the laws of the innoculated animal poisons, that affect the system after a time by absorption, produce a general affection and febrile disease, and thus render any subsequent inoculation or infection innoxious, which, I think, may be probable. If this can be ascertained, much will be gained in the knowledge of this disease; and I have, in consequence, requested to be made acquainted with whatever may befall Benjamin Mason, whose recovery has suggested this idea.

A. BERRY.

Fort St. George, Nov. 26, 1811.

ON THE

VEGETATION OF HIGH MOUNTAINS.

Translated from a paper of Mr. Ramond's in the Annales du Museum.

BY RICHARD A. SALISBURY, ESQ. F. R. S.*

An observing gardener, on ascending the high mountains of our temperate region, is immediately struck with the vigour and luxurious appearance of their vegetation. The plants he has seen in the adjacent plains are changed in size, aspect, and form, so that he hardly recognizes the most common. Their stems are elevated, their flowers larger, even the leaves of the trees have acquired a size, which makes him doubt the identity of the species. The woods are more impenetrable, the turf of the downs closer, and a green more lively, fresh and brilliant, colours every thing, from the depth of the valley, up to those heights, where the eye can discern nothing but naked rocks and eternal snows.†

---

* Hort. Trans. vol. I, appendix, p. 15.

† The first part of this sentence rather applies to purely mountainous plants, such as *aster alpinus*, *viola grandiflora*, *aquilegia vulgaris*, &c. than to all vegetables indiscriminately; the latter part I should explain by saying, that the foliage of the trees was rather diminished in the dry planes at the base of the *Pyrenees*, than enlarged by mere elevation, but along with elevation, to a certain extent, perpetual moisture and food are washed down to their roots; and such a situation in *France*, is probably the aboriginal one of the trees in question. *Sec.*

Thus, endowed with a vigour elsewhere unknown, vegetables there hasten with increased energy through the various periods of their existence. Time, which to them moves slowly in the plains, in the mountains flies. There, every thing is done rapidly; meteors dart after each other, and the air is in perpetual agitation. From all these controlling causes, acting together in full force, germination, florescence, and fructification take place almost simultaneously. Sometimes, with a wind blowing from the south, with a heavy shower, or with a scorching sun, the face of the meadows, downs, and forests, in a moment changes, and the whole of a particular species seems to vanish; in fact, there, every fine day is a spring to some particular assemblage of vegetables, or to some of the inaccessible heights in which they grow.

To this picture, another succeeds. If we examine the mountains and vallies, every place has its peculiar soil, every different elevation its peculiar climate, and each of them its characteristic vegetables. In the plains, these vegetable assemblages occupy vast spaces, the limits of which are too extensive, and indeterminate, to be easily perceived. On the contrary, in the mountains, they are confined to narrow limits, which the eye often takes in at one view. In a gentle rising extended between two dales, in a pile of rocks, or in a cliff, which the traveller ascends in a few moments, he finds the perpetual barriers of those productions, which nature has been pleased to separate.

Among the various causes of these separations, one seems to reign predominant over all others; this is, elevation above the level of the sea. In every hundred inches in height, the temperature falls about half a degree of our thermometers. After that degree of cold, which generally puts a stop to all vegetation, an eternal frost prevails on the summit of these Alps, as at the poles, and every hundred metres of vertical elevation, corresponds nearly to one degree of the distance at which the mountain is placed from the pole.

By this scale, the various phenomena of different climates in our globe may be easily understood; circumstances may differ, but the general results will be nearly the same. While the increase of cold is accompanied by a diminution of the column of air, it is also affected by the obliquity of the rays of the sun, and the distribution of vegetables, in all alpine countries, depends principally on these two causes.

Thus, in the *Swiss Alps*, and the *Pyrenees*, trees cease to grow at about twenty-four or twenty-five hundred metres of actual elevation, as they do about the 70th degree of north latitude; and that circle these gigantic vegetables occupy, is divided into several less bounds, which have each their peculiar characteristics. At the foot of the mountain we find the *oak;* in the middle region the *beech;* above these the *fir* and *yew* succeed, which soon give place to the *pine* (Pinus *sylvestris* L.) Along with this last mentioned tree, in the *Swiss Alps* the *larch* and *cembro* (Pinus *cembra* L.) also grow wild, which are unknown in the *Pyrenees.* The *cedar of Lebanus* would probably thrive as well on these mountains, as on those of Asia, had it been fixed there; but such is still the mystery of the original dissemination of vegetables, that nature seems by turns, indifferent to the similitude of places, or to the distance between them; sometimes bringing together in the same climate, plants of the most distant countries; and sometimes denying this conformity of vegetables to regions exactly alike, both in soil and temperature.

In this zone of trees, the *rhododendron ferrugineum* L. a little shrub peculiar to the mountains of *Europe* solely, is very abundant. It never descends into the plains, and can hardly be cultivated in a garden, demanding its native air, soil, water, nay snows, and even there only occupies particular spots. Nothing is more beautiful when in flower, but nothing is more untractable. In the *Pyrenees* it first appears at exactly sixteen hundred metres of elevation, stopping at precisely twenty-six hundred metres, and within these limits, is so abundant and vigorous, that it would be as difficult to extirpate it there, as it is to cultivate it elsewhere.*

---

* No shrub is more plentiful, or easily cultivated in the gardens about *London*, if planted in light sandy peat under a rock, or north-west wall, and watered plentifully in dry weather. *Sec.*

The *juniper* traverses far beyond this circle, up to the elevation of twenty-nine hundred metres, but this shrub, as it ascends, gradually loses the habit and appearance, which distinguish it in our plains; there, it resembles the *juniper* of *Sweden* and *Lapland*, with a low spreading stem, prostrate on the ground, seeking an asylum, as it were, by instinct on those sides of the rocks exposed to the south or west, against which it spreads out its branches into an espalier, with a regularity which art can seldom attain.*

In a more elevated region, we find the rigour of the climate will not permit the existence of any shrub whatever, which the first snows do not entirely cover. Still higher, even this shelter is insufficient, and nothing but a few herbs, with perennial roots actually under the earth, subsist. Nature has almost entirely banished from such places annual plants; where the whole summer is reduced to a few days, nay, sometimes a few hours; where often a storm of wind, or dripping fog, will destroy the flowers which have scarcely blossomed, and, bringing back winter, terminate the year.

On the contrary, hardly any elevation seems to stop the progress of some perennials, which on the approach of severe cold, shelter themselves under the double protection of the earth and snow, forming their buds underground, and springing up the first fine day of the succeeding year. Their duration exhausts the chances of all times and seasons, till, sooner or later, they also ripen seed, by which they are multiplied.

Thus the vegetable zone of our alps has in fact no other limits, than those of the earth or soil covering them. The *Pic du Midi*, which I have ascended twenty-six times, is three thousand metres above the level of the sea, but I never once found the thermometer there rise to the temperate point. Yet, on a nearly bare rock, I have there gathered as many as forty-eight species of vegetables, excluding cryptogamous plants; of these, one only, which perhaps I may never find again, was annual.

---

* Two distinct species are probably here confounded, an opinion in which I was confirmed by the late Mr. Dryander.—*Sec.*

At *Nieuville*, a place two hundred and fifty metres higher than the *Pic du Midi*, where the thermometer in summer never rises to more than 8 degrees, I have, in five journies, collected twelve different perennials. On the top of *Mont Perdu*, at an elevation of thirty-five hundred metres, even in the bosom of permanent snows, but on rocks the sloping situation of which had cleared them of snow, I have seen six different plants very vigorous. Here, in one of the hottest days of a summer remarkable for its heat, the thermometer only rose 5·5° above the point of congelation, and it undoubtedly falls in winter to 25 or 30: nor is it certain, that those six plants, found in a season which melted more snow than usual, are regularly uncovered every year. Besides, I have seen some of them on the borders of the perpetual snow, with only half of their stems exposed and vegetating, the other half buried in it,* and it is probable, that many of them do not see the light ten times in a century, running through the whole course of their vegetation in a few short weeks, and doomed afterwards to sleep through a winter of many years.

Plants subjected to so singular a mode of existence are not among the species which grow in the plains of our temperate regions; they belong exclusively to such as grow on the summits of mountains, or near the poles. *Norway*, *Lapland*, and *Greenland*, furnish plants analogous to those of the *Swiss Alps* and *Pyrenees*; but few, or possibly none of them, are seen in *Siberia*, *Kamschatka*, or even in the polar regions of *America*. One would hardly have supposed so great a diversity of vegetable productions in countries so much alike and near each other, nor on the other hand, so great a conformity as exists among the plants of these countries, and the plants of some alpine regions distant from them 40 degrees.

In fact, we learn from actual observation, that the dissemination of vegetables is not always regulated in parallel distances

---

[*] A similar case occurred in a vine at *Chapel Allerton*, planted in the open air, at some distance from the stove; a branch of which, however, being introduced into the stove early in January, was loaded with clusters of grapes, before any of the buds exposed to the open air, shoot out. *Sec.*

from the equator; that if a certain number of plants, confined by their constitution to a peculiar climate, are to be found to a certain distance under the same latitudes, many others, on the contrary, have been scattered over different countries in the direction of their meridians. Towards the south, *America*, *Africa* and *Asia*; towards the north, *Europe*, *Asia*, and *America*, are far from producing the same vegetables under the same parallels; while many plants, growing wild in each of these grand divisions of the globe, brave every obstacle opposed to them by a diversity of climate, and propagate themselves in a geographical direction quite contrary to that which a similar climate would confine them to.

Thus, for example, many of the curious plants of *Sardinia*, *Sicily*, and *Italy*, mount up the *Swiss Alps*, and then descend again into the lower parts of *Germany*, without being allured by our fine climate to *France*. Thus, likewise, the *Pyrenees* receive from *Spain* a great number of the plants of *Barbary*, scattering them over the western provinces of *France*. The *merendera*, which grows in the north of *Africa*, is found in *Andalusia*, *Castile*, *Arragon*; when crossing the *Pyrenees* it descends as far as the *Landes de Bourdeaux*. The *narcissus bulbocodium*,* and *hyacinthus serotinus*, grow wild in the same places, and follow the same route. The *anthericum bicolor* of *Algiers*, traverses the same chain of mountains, and arrives in *Anjou*. The *scilla umbellata* and *crocus nudiflorus*, have migrated from the *Pyrenees* even into *England*. Yet not one of the above mentioned vegetables have been disseminated laterally, to meet those southern ones which have crossed the *Swiss Alps.*

---

* Here the celebrated author confounds three very distinct species. The plant of the *Pyrenees* is the *N. Bulbocodium* L. with erect leaves, very hardy, and brought forced to *Covent-garden* in abundance every spring. The plant of *Barbary* and *Andalusia*, which I received from the late professor Broussonet, is more dwarfish, with leaves spreading flat on the ground, and so tender, that it will only live here through winter, in very warm sandy soils, close to a wall. The plant of *Castile* grows also near *Oporto*, and differs from both the others, in having a six-lobed plaited crown, with very narrow leaves; it is not very tender, but requires a dry sandy soil. *Sec.*

But it is in the great vallies of the *Pyrenees*, extending from north to south, that these vegetable galaxies become most striking and singular. The *dianthus superbus* runs through the whole valley of *Campan* and *Gavarnie*, without ever entering any of the side ones. The *verbascum Myconi*, that beautiful and scarce plant, which does not belong either to the genus in which Linneus has placed it, or perhaps to any natural order yet defined, and which has so exotic an appearance, that it distinguishes itself like the *kingfisher*, among our indigenous birds, invariably keeps to the same direction. Nothing is more abundant in all the great vallies of the *Pyrenees*, in every soil and exposition; yet the very same soil and exposition never attract it to any of the collateral ones. I could cite a multitude of similar examples, but it is sufficient at present, to mention one more, the *box tree.* This shrub, so very robust, is affected by elevation like the most delicate ones. At the base of the *Pyrenees*, both on the *French* and *Spanish* side, it covers every hill; thence it enters the great vallies, running from the north-east towards the south, but never quits them; in vain do the numerous branches of these vallies offer it an asylum; passing their openings, it keeps to its first direction, stopping on the crest of the chain at about two thousand metres above the level of the sea, and appearing again on the other side at a similar elevation, and in a similar direction, from which it never deviates.

Thus it is, that in high mountainous countries we discover the strongest traces of the original design of nature; there, each order of vegetables is confined within narrower bounds; there, local influence more powerfully resists every other. Nevertheless, the lapse of ages and especially the presence of man, has here introduced many modifications; for, in traversing the immense deserts of these high mountains, among the rare plants which form their herbage, some few of the commonest here and there occur. If the verdure takes a deeper tint than usual, contrasted with the gayer colour of the alpine turf, the ruins of a hut or a rock blackened by smoke, explain the mystery. Around these asylums of man, we find naturalized the common *mallow*, *nettle*, *chickweed*, common *dock*. A shepherd had possibly sojourned here some weeks, and, hither, in driving his flocks here, had also attracted without knowing it, the birds, the insects, the seeds of the plants of his lowland cot. He may possibly never return, but these wild spots have received in an instant the indelible impression of his footsteps; so much weight has a being of his importance in the scale of nature.

In other places, by destruction he has signalized his presence. Before he approached the mountains, the immense forests which covered their bases have fallen under his axe, for woods are not the abodes of man; he avoids the circuitous paths of so vast a labyrinth, suspecting danger under their shades; he there mourns the absent sun, an object which every day renovates his delight; and therefore it is seldom that he penetrates a forest without fire and sword in hand.

Accordingly the seeds of woodland plants become dormant in a soil now dried by the sun and wind, and no longer suitable to their germinating. Other vegetables take their places, the climate itself changing; for the temperature rises, the rains are less frequent, but more copious, the winds more inconstant and impetuous, deep gullies are formed in the sides of the acclivities by torrents, and rocks are deprived of the earth which covered them, and, at the same time, of the plants which ornamented them, by falls of immense loads of melting snow; thus the face of the globe, where man inhabits, is more changed in one century than in twenty where he is absent.

After all in Alpine countries, the different soils, and their productions, retain most of their aboriginal character; there, the primitive distribution of vegetables has been least disturbed; their localities can be easily traced, the influence of the air is most perceptible; there the contiguity of objects exhibiting more forcibly their similitudes and dissimilitudes, the eye of the observer takes in, at one glance, every trait which is interesting; and if it is necessary for the geologist to visit these grand chains of mountains, to study the structure of the earth and those catastrophes, which have imprinted its present form, it is still more so for the horticulturist, who wishes to penetrate the mysteries of the primary dissemination of vegetables and their subsequent propagation, hoping thence to derive hints for their successful cultivation and improvement, in the paradise surrounding his dwelling.

DESCRIPTION OF A

BANK FOR ALPINE PLANTS.

By M. Thouin, abridged from his paper in the Annales du Museum.

BY RICHARD A. SALISBURY, ESQ. F. R. S.*

PLANTS from alpine and frozen countries are cultivated in the *Jardin des Plantes* at *Paris*, in a *bank*, sixty feet long, placed against the wall of a terrace, ten feet high, which faces the south-east so much, that the sun ceases to shine upon it between 10 and 11, A. M. This bank is divided into five steps, one foot wide, by nailing planks of oak, ten inches deep, to the top of as many rows of strong posts, charred at the bottom, and driven firmly into the ground; the taller posts are still further secured in their places by cross bars let into the wall.

Through the whole length of this *bank* runs a ditch, two feet deep, but sloping gradually towards the front up to nine inches in height, under the general level of the ground; and in making this ditch, its sides were plastered six inches thick with mortar of brick mould and chopped straw; filling up all the cracks which appeared during the week it was left exposed to the air. After nailing the planks to the posts, the natural soil, which is of a light nature, was thrown into the hollow up to within about a foot of the surface of the slope, above which it was filled with sandy peat, such as *ling* and *heaths* grow in, passed through a screen. My reason for using all these precautions was to prevent the water necessary for the health of those *alpine* plants in summer, running off too quickly into a bed of dry gravel underneath; in a naturally moist soil, this expense and trouble may be saved.

---

* Horti. Trans. vol. I. appendix, p. 24.

I have sown on this *bank* the seeds received not only from the *Alps*, but several other frozen regions; for it is probable, that the elevation of the atmosphere near the *poles* corresponds with that of the highest mountains in *France*, rising gradually toward the equator; nor is this consideration so foreign to the business of a gardener in naturalizing vegetables, as might be at first supposed.

Roots of all the *alpine* plants I could collect, have also been planted in this *bank*, and they thrive much better than when cultivated in pots on a stage, however open or airy, so that most of the following have greatly increased both by seeds and roots. *Moehringia muscosa, viola biflora, androsace carnea,* and *lactea, soldanella alpina, primula farinosa,** *tussilago, alpina, artemisia glacialis, salix myrsinites, retusa,* and *reticulata.*

The culture they require is, 1st, to keep the *bank* carefully weeded; 2dly, to reduce within bounds many that grow and spread rapidly so as to exclude others; 3dly, to dig and ligthen the surface frequently, that it may absorb air and water more readily; 4thly, to add three inches in depth of fresh sandy peat every year in place of the old, which soon loses its *humus*, or nutritious part; 5thly, in giving the plants, at a certain season, not only daily, but hourly waterings; but this being one of the most important points, I shall enlarge more fully upon it.

---

* I have constantly found this plant growing wild in wet meadows that are seldom dry even in summer, at the foot of the mountains, and even in bogs. *Sec.*

Almost all *alpine* plants are of humble stature, growing on steep declivities of rocks in a layer of *humus* or vegetable earth, formed by the decomposition of *jungermannias, lichens,* and *mosses.* The greater part of the year, they are covered with a bed of snow, which only begins to melt at stated periods of the day, after the rays of the sun have acquired great force. Then only do these *alpine* plants awaken from torpidity, exhaling quickly in this light black soil the moisture which they have absorbed during the night; but the returning sun, which excites them to action, also melts the snow above, the waters of which trickling down to their roots, give immediate refreshment. The sun disappearing, these little vegetables are no longer exhausted, and a continuance of moisture would even be hurtful; accordingly the snow resuming its solid consistence with the cold of the night, this natural irrigation ceases, with a degree of exactness, that the most careful gardener cannot perform.

From the above remarks, it will easily be deduced, that *alpine* plants should have no water at all during winter and dank moist weather; on the contrary, that they should be kept perpetually moist during hot sunshine, by water dribbling through the soil to their roots, without wetting their leaves, which, immediately evaporating by the heat, will cool the air just above them. In fact, it is only by a close imitation of the process of nature, that these vegetables of cold regions can be successfully cultivated in botanic gardens.

The last essential point relative to *alpine* plants is to cover them up on the approach of frost; this may appear a strange precaution to some, but when winter commences in their native soil, being immediately covered with snow to the depth of seven inches, they never feel a greater degree of cold than that of the freezing point, the soil itself being hardly frozen. The best covering is that of *fern, pteris aquilina,* which does not absorb moisture so quickly as most other sorts of haulm.

READINGS AND OBSERVATIONS.

No. II.

UVA URSI.

Dr. Ferriar, in the first volume of his Medical History and Observations, speaks favourably of the use of uva ursi in nephitic cases, and in very moderate doses. The usual treatment of constitutional irritation, in cases of acute pain, quick pulse, &c. was premised, as bleeding and gentle purgatives. The last, composed of manna, and a neutral salt was given twice a week, and on the intermediate days. The patient took five grains of uva ursi and half a grain of opium, three or four times a day according to the urgency of the symptoms. "This method," remarks Dr. F. "always relieves, and generally effects a cure. I have never found large doses necessary; of sixteen patients treated in this manner, I have discharged twelve cured, and of the remaining four, two were much relieved, and two discontinued their attendance. In reckoning the cures, I do not rest on the cessation of a single fit, but require a permanent relief from pain. Many of my patients have used the remedy for several months together, before this end was attained. The fits became slighter, and at length ceased; I have had occasion to try the effect of uva ursi in some cases of hæmaturia, in delicate female subjects, where there was every reason to conclude that the hæmorrhages proceeded from the kidneys. It has always succeeded in removing the complaint. From these and some other facts, I have been led to believe, that this remedy acts specifically, as a tonic and astringent on the kidneys." In a note, Dr. F. remarks, "The smallness of this dose, in exhibiting a medicine generally given in the quantity of a scruple, may excite surprise. A medical friend, of high reputation, who inspected these papers before they went to the press, appeared very dubious respecting this particular. The facts, however, are exactly as I have represented, and I may add, that in doses of a scruple, or half a drachm, I have found this remedy produce nausea, even when joined with opium." This remedy has been recommended by other authors, in these cases, especially in those in which suppuration has taken place; the doses recommended in these cases is commonly from half a drachm to a drachm three times a day. I have met with no remedy which has answered so well in that distressing strangury which sometimes is produced by blisters. I recollect hearing from one of the most respectable medical authorities in America, a case in which the most decided benefit resulted not only from the use of this article as a remedy, but as a preventive. A lady from the West Indies, subject to hepatick disease, came under his care during a very severe attack of hepatitis. A blister among other means was recommended, but she obstinately refused submitting to the application, and gave as a reason, the distress they invariably produced. Her physician now told her he was in possession of an article which would prevent this altogether. An infusion of the uva ursi was made and given during the use of the blister, and no strangury supervened. A second application of the blister, and the use of the same article was attended with the same effects. At another time the infusion was omitted, the strangury came on very severely, but was soon relieved by the use of the infusion.

I have heard the same objections made in this country to the use of the medicine, that were made to Dr. Ferriar, that it was an inert article, and not to be relied on. On the above authority we have used it, and with decided benefit.

HOOPING COUGH.

Dr. Heberden indulges some degree of medical scepticism when speaking of the remedies of this disease. Experience has instructed us, he remarks, that a change of air is of singular use in abating the force and shortening the stay of this distemper. For the disturbance, the functions of the stomach undergo in consequence of it, he recommends the use of rhubard and bitters, and from its partaking so much of the nature of a convulsive disease, he thinks some benefit might be derived from the use of musk, opium, lac ammoniac, antimonial wine, &c. Dr. Ferriar seems to have more confidence in medicine, and gives it as his opinion that after the use of blisters, bleeding when indicated, and gentle antimonial emetics; we may resort to the solution of white arsenic as the only remedy in this disease. He has used it both in public and private practice, and with so much success as to justify farther trials. The dose he generally begins with, is one drop daily, for an infant and for children under seven, two drops repeated according to the state of the symptoms.

Caution is required lest the medicine should accumulate in the system. To prevent this, the suspension of it for a day or two, the exhibition of a little calomel to evacuate the bowels, is all that will be found necessary.

All accumulations in the bowels should be guarded against under every mode of treatment, otherwise fever may be the consequence.

Some benefit has been found in the use of the sulphate of zinc in this disease. It has in the first place been given with a view to vomiting, if this be indicated, and afterward in such small doses as will produce a tonic effect.

REVIEW.

ARTICLE XIV.

Annual Address, delivered by appointment, before the Society for the Promotion of Useful Arts, at the capitol, in the city of Albany, on the 3d of February, 1813. By Theodric Romeyn Beck, Fellow of the College of Physicians and Surgeons (New-York) and one of the Counsellors of the Society, for the promotion of Useful Arts. Albany, printed by Websters & Skinners, 1813. *p.p.* 44.

The subject of this address is peculiarly interesting. The object is to present to the public a compressed view of the mineralogical recources of the United States, and to point out the uses of the fossils and minerals already discovered in the formation and extension of our domestic manufactures. It is, therefore, an original work, for we do not recollect that one of this kind has ever been published in this country. The information afforded by the learned editor of the "Mineralogical Journal" is much more limited. It is confined to the description of the analyses of insulated specimens, and to the oryctognostic or geognostic characters of small districts. But it is not the less useful, since it furnishes us with important facts, which at a future period, may form the basis of many general and practical conclusions.

The subject of mineralogy, has within a comparatively short period attracted the attention, not only of the naturalist, but also of the man of business. The former pursues it with ardour from the pleasure he enjoys in the study of nature and from the laudable wish of adding some new fact to the stock of human knowledge; the latter, with the prospect of obtaining wealth, or at least, with the hope of preserving the property which has been acquired by honest industry, but which for some time past he has not been able to employ in the usual routine of commerce. In Massachusetts the *metallurgic mania* was one of the results of the system of "commercial restrictions;" many have been injured, by the blind confidence with which they entered into speculations in mines, without an adequate knowledge of the extent, or even the nature of the ores, and by the erection of expensive works, before they had collected materials, or been satisfied of the experience, the knowledge, and the integrity of their artists. To the nation at large there may be some alleviation for individual misfortune in the belief, that in consequence of this eagerness of pursuit, the face of the country has in part been explored, that many beds of ores and a multitude of articles capable of being manufactured have been discovered, and that those in whose possessions they now are, will profit by the errors of their predecessors, and render their processes not only less complicated and expensive, but also more productive. With regard, however, to the influence which the knowledge of our resources of this kind, may have in promoting the establishment of manufactories, and the effect on the morals of the inhabitants of these states, we shall observe in the language of Dr. Beck, that, "it cannot be the wish of any true patriot, that the United States should become, in the strict sense of the word, a manufacturing country. The disease, vice and diversified forms of misery that exist in those parts of England from whence our hardware and cloths are obtained, are sufficient to make the most sanguine advocate for the encouragement of manufactures tremble. After all that has been written and said on the subject, together with the notice that our national legislature are giving to it, the wants of the country are the true data, which must guide to a decision on this subject."

It can hardly be supposed that in a country like this, which is so thinly inhabited, and in which the science of mineralogy has been so lately introduced, either extensive or accurate information can be obtained of the amount of our mineralogical resources. It is more than probable, that we are acquainted but with a very small proportion of what we really possess. Our progress must necessarily be gradual. As this branch of natural history is more studied as the art of analysis is acquired, as new roads are formed, quarries and canals are opened, and the country is cleared and cultivated, our fossils and minerals will be brought into view, and we may probably be astonished at the profusion with which the bounteous hand of Providence has scattered those mineral riches which are essential to the comfort, the refinement or the luxury of man.

The author of this address has been indefatigable in his researches, and much time and labour must have been expended in searching for the authorities which are every where quoted in this little work. It is this, however, which renders it valuable, as his knowledge is derived from authentic and legitimate sources. We shall now present our readers with a few extracts, by which they will be enabled to judge of the nature and merits of this pamphlet.

"The existence of iron in the present United States appears to have been known at a very early period to the colonists. In the year 1620, the company to whom the province of Virginia had been granted, sent out 150 persons to erect three iron works.* The success of this attempt is not stated. In 1645, permission to make iron, was granted by the legislature of Massachusetts, and in consequence works were erected in several towns.† Nearly a century afterwards (in 1731) there were in New-England, six furnaces for hollow ware and nineteen forges‡. In 1715, pig and bar iron were first made in Virginia, and the flourishing state of the manufactories of this metal in the colonies may be inferred from the fact of the British Parliament in 1719, enacting several restrictive clauses unfavourable to these works.§ Since the revolution, new mines have been continually discovered and in general worked to great advantage. At present there is scarcely a state, in which iron is not found. From actual enumeration it appears that in 1810 the furnaces, forges and bloomeries in the United States amount to 530, of which this state fournished 69.* If they have increased with the same rapidity in other states as they have in ours, their number at this time cannot be much short of six hundred. The value of the iron and its manufactories annually made in the United States, is estimated by Mr. Gallatin, at from twelve to fifteen millions of dollars,† whilst the imported metal, in its forms of bar-iron, steel, &c. is supposed to average near four millions."

---

* Holmes' American Annals, vol. 1, p. 205.

† Ibid. - - vol. 1, p. 335.

‡ Ibid - - vol. 2, p. 130.

§ Oddy's European Commerce, vol. 2, p. 286.

"The ores of iron which are found in this country, are for the most parts, *magnetic iron stone, brown hæmatite, and bog iron ore.*‡ The *sparry iron stone* has also been discovered and used. These different kinds are among the most valuable species of the mineral. They all yield an abundant per centage of ore, so as in most cases to bring a handsome profit to the proprietors. Several local circumstances conduce to this end. The cheapness of charcoal, the almost inexhaustible supply that our forests promise, the beds of coal that are continually discovering, are all arguments in favour of our nurturing this domestic manufacture. The only deficiency appears to originate from the want of workmen who are sufficiently intelligent, or acquainted with modern improvements. The consequence is, that the iron has not been properly prepared, and holds in our markets a comparatively small value, on account of its inferior quality.§ A short period of time will doubtless remedy this defect. Men of capital and information are taking these establishments into their hands, and will press into their service American ingenuity and talents, together with all the aid that emigration affords.

---

* Mitchell's view of the manufactures in the United States, in the American Med. and Philos. Register, vol. 2, p. 413.

† Gallatin's report on the state of American manufactures in 1810. The manufactures of iron in the state of Pennsylvania amounted in that year to the value of $5,869,487. (Mease's Picture of Philadelphia, p. 80.)

‡ In noticing various minerals, I have adopted the names, and in general the arrangement, used by Jameson in his system of oryctognosie.

§ This fact is noticed by Mr. Gallatin in his report. Vide also Col. Gibb's notice of the Vergennes' iron works in Bruce's Mineralogical Journal, No. 2. p. 84.

"Although foreign iron, (particularly Russia and Swedes) has in general the superiority of character in our markets, yet there are some instances in which American ranks higher than either; this is particularly the case with that manufactured at the *Ancram iron works* in this state. It is said to be superior to any now in use for iron wire, chains, &c. since it combines malleability and strength in a remarkable degree. This kind of iron sells at a higher price than either of the above.

"An enumeration of what has been effected in this branch of manufactures, will evince our rapid improvement, as well as mark what is yet to be done. Our domestic resources at this time supply us with almost every article that is needed in agricultural labours. Should it be found impracticable at any period to procure iron from foreign countries, the present works would doubtless be fully competent to meet the demand. The various implements which are necessary in husbandry, and the thousand uses to which different forms of this metal are applied on farms, together with those needed for domestic, and culinary purposes, employ much of the active industry of our citizens. Various mechanical occupations also consume a large quantity of iron. Ship building is an art in which a vast amount is used. The contrast between our situation, half a century ago, and our commercial greatness some years since, "when our thousand sails whitened every sea, and visited every shore," is a proud proof of our advancement in naval architecture.* In some instances our progress is still more striking. Gen. Hamilton, in his masterly report on manufactures states, that in the year 1790, there were imported into the United States one million eight hundred thousand pounds of nails.[*] In 1810, (though we still imported this article in considerable quantity,) there were manufactured in this state alone, nails to nearly the same amount. The making of cut nails is claimed as an American invention;[†] if this be the case, the nation possesses the honour, as well as the advantage of so useful an improvement. It appears to have originated in the state of Massachusetts as early as the year 1787."[‡]

---

* Among the documents accompanying the report of the naval committee made at the present session of congress, there is an estimate of the expense of building a seventy four gun ship, by Mr. Humphreys, a ship builder. The whole amount of cost is estimated at three hundred and forty two thousand seven hundred dollars. Of this, thirty nine thousand one hundred is put down for smiths' works, anchors, &c. more than 1-9 of the whole expense.

"*Coal* is an article arranged under the class of *inflammables.* This substance, which is daily becoming more valuable on account of the increasing scarcity and price of wood, has been found in various situations. It is now generally allowed, that it has a vegetable origin, but theorists differ as to its formation. The Wernerian, attributes it to an aqueous process, while the Huttonian supposes heat acting under partial compression, to be the cause.[§] The phœnomena attending the discovery of coal in this country may probably strengthen one or the other of these hypothesis. Coal in a general way may be classed into two divisions. *Bituminous* coal, a kind which is highly inflammable, and burns with a vivid flame. This species is used for fuel, and answers the required purpose; but for various mechanical occupations, such as the smelting of iron ore, drying malt, burning of lime, and making earthen ware, coal is required that will give a strong and steady heat, without evolving any smoke or bituminous vapour. For this purpose, the English coal, which is generally of the bituminous kind, is exposed to a great heat and its volatile parts expelled. It is then called *Coke.* Some years since the earl of Dundonald suggested a plan of saving these volatile products, which was adopted by him with great success.* The bitumen was condensed into tar, and it is said that by this method the English marine, was for several years, supplied with that important item in ship building.† *Another species of coal* is that which is found destitute of bitumen, and in consequence is used in the arts without any previous preparation. Of this nature is the Kilkenny coal, which from analysis is found to contain ninety seven parts of pure carbon out of the hundred,‡ and the anthracite or glance coal (blind coal.) Both these kinds are found in the United States. The former exists in Virginia, on both sides of the James' river over a tract of fifteen or 20 miles. It has already become an important article in domestic commerce. The latter has been discovered in the state of Rhode-Island, in a state almost as pure as the Kilkenny coal;§ and in Pennsylvania, at Wilkesbarre, and on the Lehigh.¶ Indications of this mineral are found in the state of New-York, New-Jersey and Maryland."

---

[*] Page 83. Williams and Whiting's edition.

[†] By Gallatin, vide report.

[‡] In the town of Cummington, (Berkshire) they were first made from hogshead hoop. For these and several other important facts I am indebted to Mr. S. Stafford, one of the proprietors of an extensive iron furnace in this vicinity. [Since delivering the address I have been informed by Mr. Benjamin Peck, of Milton, (Saratoga county) that the credit of the invention is due to Mr. Josiah Waterman, of the town of Cumberland, in the state of Rhode-Island. It was commenced as early as the year 1776, and the first use to which they were appropriated was the making of cards. Mr. Peck is now a partner in the iron trade with the inventor's son.]

[§] Vide Murray's System of Chemistry, second edit. vol. 3, p. 636. For some curious facts connected with this subject, vide the notice of and extracts from the paper of Dr. Nugent, on the pitch lake of Trinidad, in Edin. Rev. No. 37, art. 9.

---

*One hundred and twenty tons of coal yielded three and a half tons of tar. Nicholson's Dictionary.

†Chaptal's Chemistry, vol. 3, p. 342

‡Kirwan's analysis of various species of English coal, in Murray's Chemistry, vol. 3, p. 635.

§Carbon ninety four, ashes six. Vide "an inquiry into the chemical properties and character of that species of coal lately discovered in Rhode-Island, &c." Published in the third supp. to Barton's Med. and Physical Journal, p. 221.

¶Strata of coal are found at Pittsburg, and probably extend into the state of Ohio. It is also found in Tennessee, and the Indiana and Illinois Territories.

"Sulphuric acid and lime united form *gypsum*. From that obtained at Montmatre in the vicinity of the capital of France, the plaister of Paris used in commerce, is formed. *Sulphate of lime* is found in a state of great purity in Onondaga* and Madison counties, and on the borders of Cayuga lake. The quantities procured there are very great, and supply many parts of this and adjacent states. During the last year, it is calculated that six thousand tons have been sent into Pennsylvania from the vicinity of Cayuga lake.† It is also discovered in New-Jersey. Besides its very important use in agriculture, it is employed for the formation of stucco, and in modelling, if it be of uniform texture, and sufficiently delicate colour. Several beautiful specimens of *fibrous gypsum* have been found at Onondaga."

To the manufactures mentioned by Dr. Beck we may add, in Massachusetts, the formation of steel wire at Medford, the manufacture of copperas at Winthrop, Maine; of sulphuric acid at Charlestown, and of carbonate of magnesia, near New Bedford; where works sufficiently extensive have been erected to produce from fifteen to twenty thousand pounds annually. The article thus made is superior to the European magnesia.

While on this subject we have thought that it would not be unacceptable to many of our readers to know the number and nature of the minerals and fossils which have been observed in Massachusetts proper, and the District of Maine. We do not present it as a complete catalogue. It merely contains those which have come to our knowledge.

Earthy fossils.

Emerald,	near Boston.
Beryl,	District of Maine.
Garnet common,	very common.
Garnet massive,	Newburyport.

---

* Vide Warden's analysis of Onondaga sulphate of lime, in the Med. Repos. vol. 13, p. 76.

† This information was communicated to Simeon De Witt, Esq. by J. Geddis, one of the corresponding secretaries of the Society.

Schorl,	very common.
Indicolite,	Worcester county.
Quartz amorphous and crystallized,	very common.
Quartz amethystine,	Maine.
Prase,	near Boston.
Flint,	Saco, Maine.
Flint slate,	Quincy, &c.
Prehnite,	Charlestown.
Feldtspar,	very common.
Feldtspar flesh-coloured,	Maine.
Staurotide,	Massachusetts and Maine.
Adularia,	common.
Potter's clay,	Charlestown.
Roofing slate,	common.
White slate, novacolite,	Dorchester.
Mica, iridescent,	Hampshire.
Mica common,	very common.
Mica, black crystallized,	Maine.
Chiastolite, macle,	Maine.
Chlorite, earthy and slaty,	common.
Hornblende,	ditto.
Basalt, columnar,	near New-Hampshire.
Wacce,	Roxbury.
Fuller's earth,	
Steatite,	Middlefield.
Serpentine, noble and common,	Newburyport.
Talc,	Middlefield.
Asbestos ligniform,	Newburyport.
Amianthus,	ditto.
Actynolite,	Brighton.
Pistazite,	Goshen.
Tremolite,	Newburyport.
Limestone compact,	Thomaston, Maine.
——— granular,	Pittsfield, &c. &c.
Flexible marble,	ditto.
Calc spar,	Northampton, &c.
Satin spar,	Newburyport.

Rhomb spar,	Middlefield.
Phosphate of lime, in granite,	not uncommon.
Fluor spar,	Northampton.
Selenite	Milton, small quantities.
Fibrous Gypsum,	do. do.
Heavy spar lamellated,	Hatfield.
—— —— tabular,	ditto.
Granite,	common.
Graphic granite,	Topsham, Me.
Gneiss,	common.
Mica slate,	ditto.
Porphyry, red and green,	Malden.
Sienite,	Quincy.
Grunstein,	common.
Grunstein, containing shells,	Maine.
Petrosilex,	Chelsea.
Siliceous Amigdaloid,	Malden, &c.

Inflammable Fossils.

Bituminous wood,	Gayhead.
Anthracite,	Maine, in small quantities.
Bituminous coal,	some indications near Connecticut river.

Metals.

Copper pyrites,	Northampton, Woburn.
Variegated copper ore,	ditto.
Azure copper,	ditto.
Iron pyrites,	very common.
Specular iron ore,	Malden.
Micaceous iron ore,	
Fibrous brown Hæmatite,	Merrimack river.
Clay iron stone,	ditto.
Jaspery clay iron stone,	ditto.
Columnar clay iron stone,	Gayhead.
Nodular ore,	Plymouth.
Phosphate of iron,	ditto.

Magnetic iron ore, crystallized,	Maine.
Bog and Meadow ore,	common.
Native vitriol of iron,	Gayhead, &c.
Iron sand,	Maine.
Galena,	Northampton, &c.
Sulphate of lead,	ditto.
Muriate of lead,	ditto.
Phosphate of lead,	ditto.
Molybdate of lead,	ditto.
Blende, sulphuret of zinc,	ditto.
Arsenical pyrites,	
Native arsenic,	Gayhead.
Molybdena, sulphuret,	Maine.

ARTICLE XV.

Chemical Researches on the Blood and some other Animal Fluids. By William Thomas Brande, Esq. F. R. S. Phil. Trans. Part 1. 1812.

[From the London Medical Review.]

ANIMAL chemistry, the most obscure and difficult branch of the science, has already been enriched by the active and ingenious experimentalist, whose memoir is now before us. A former volume of the Philosophical Transactions contained an account of some well devised experiments, instituted for the purpose of ascertaining the composition of serum and other animal fluids; and estimating by this favourable specimen of the talents of Mr. Brande, his fitness for the present undertaking, we entered with no common expectation upon the inspection of a more extensive investigation respecting the most important of these fluids.

In this instance, one substance, and that belonging exclusively to the blood, was the leading object of inquiry. In the prosecution of it, however, other substances presented themselves to the notice of the author, as demanding examination before he could proceed with perfect satisfaction; and to this circumstance we are indebted for some very valuable information respecting the composition of chyle and lymph; which is not only more accurate, but if we mistake not, much more ample than any heretofore offered to the physiologist. Besides possessing more effectual means than his predecessors for decomposing the animal fluids, Mr. Brande appears to have had better opportunities for supplying himself with some of the fluids on which he wished to operate. In attaining these opportunities Mr. B. has acted, we are inclined to believe, with a laudable degree of humanity; for instead of sacrificing animals to answer the purpose of his inquiry, he took advantage, while engaged in assisting Mr. Hume in his physiological researches, to collect the materials for his own experiments. This we feel ourselves in justice bound to state, having on a former occasion taxed with unproductive and extravagant expenditure of animal life, the experimental conduct of one individual belonging to the same school.

An examination of the chyle and lymph in order to compare their composition with that of the blood, appeared to Mr. Brande, to form an important part of his inquiry. Accordingly he collected in a state of purity, a sufficient quantity of each fluid for examination; the former from the thoracic duct about four hours after an animal had taken food, and which he somewhat erroneously considered to be pure chyle; the latter from the same vessel when the animal had been kept twenty-four hours without food; this seeming in no respect to differ from the fluid contained in the proper lymphatics, he considered to be pure lymph.

Chyle is represented to be an opaque fluid of a perfectly white colour, without smell, but with a slightly salt and sweetish taste. In about ten minutes it had acquired the appearance of stiff jelly, and in twenty-four hours had separated into a coagulum, firm and contracted, and a fluid, colourless and transparent. The colours of litmus and turmeric are not affected by chyle, although the blue infusion of violets was slowly changed to green by it. The coagulum of chyle resembles the caseous part of milk more than the fibrine of blood. Of the action of the alkalis which dissolve this coagulum, and of the mineral acids, which when diluted also dissolve it, a minute detail is given; we shall only, however, stop to mention, that nitric acid after acting upon it some weeks, converts it into adipocire, and diluted with three parts of water, dissolving a part, leaves a substance remaining with the properties of gelatine. By the destructive distillation, the usual products of animal matter were obtained, and the residuum consisted of muriate of soda, phosphate of lime, and slight traces of iron. The serous part of chyle is shewn to contain some albumen with saccharine matter strongly resembling sugar of milk, and like it by means of nitric acid convertible into the saccholactic acid of Scheele. Charcoal, with phosphate of lime, and muriate and carbonate of soda were obtained by the destructive distillation of this part of chyle.

Lymph, when exposed to the action of alchohol, acids and alkalis underwent no change, except being rendered slightly turbid by the first of these agents. Vegetable colours were not affected by it with the exception of the infusion of violets, which as by the action of chyle before noticed, was rendered green, but not until applied to the residuum after evaporation to dryness. By exposing it to electro-chemical analysis, portions of albumen were exhibited; alkaline matter being evolved at the negative and muriatic acid at the positive side of the battery. After destructive distillation a little muriate of soda without any iron remained.

The experiments on that part of the serum which is commonly termed serosity, detailed in the next section, confirm the opinion maintained by Mr. Brande in the paper before alluded to, that gelatine does not, as generally believed, exist in this fluid, and that it is a compound of albumen with excess of alkali. We shall only briefly notice the very conclusive results obtained by placing the serum in the voltaic circuit. Into one ounce of serum diluted with three ounces of water, the conductors from a small battery were introduced at the distance of two inches from each other. Solid albumen was deposited and occasionally removed, for the space of three hours, after which a mere decomposition of water occurred. From this fluid, when infusion of galls was added, no precipitate was obtained, nor was any gelatine afforded by evaporation to dryness. When the albuminous part had been separated by adding one ounce of muriatic acid to two of serum, assisting their action by heat, neither electricity nor infusion of galls produced any change on the filtered fluid. But when in another experiment a small quantity of isinglass had been previously added to the serum, a copious precipitate was produced by the infusion of galls, after complete separation of the albumen by the voltaic power. On examining the solid matter of serum obtained by evaporation, after incineration, it appeared to consist of some particles of charcoal, a considerable quantity of phosphate of lime, and slight traces of iron.

In the fifth section, entitled some experiments upon the coagulum of blood, the author enters into some details by which he has shewn that the quantity of iron was similar, whether obtained from the ashes of the coagulum of blood allowed spontaneously to coagulate, or of that which was procured by stirring the blood whilst it was becoming solid, and thereby diffusing through the serum the principal part of the colouring matter. In both cases the iron was so small in quantity as nearly to have escaped observation; nay, even when the colouring matter of a pint of blood collected after subsidence from the serum in which it had been diffused was incinerated and examined, the traces of iron were equally indistinct as the former. These results it may be remarked are at variance with those of Rhades, Menghini, and others. Rhades, who first noticed the existence of iron in the blood, and not Menghini, as stated by Mr. B. in the introduction to his paper, obtained ten grains and a half of iron from eleven ounces of blood, and Menghini represents it to constitute an hundredth part of the whole mass.

We cannot hesitate, however, in preferring the conclusions of Mr. B. to those of the earlier chemists.

Having thus disposed of two very general errors, Mr. Brande proceeds in the next section to deliver an account of his researches on the colouring matter of the blood; the object which he had principally in view in undertaking these experiments. For procuring this substance, Mr. B. generally employed the serum of venous blood, through which it had been diffused by agitation during coagulation. Not being readily dissolved by serum the colouring matter gradually subsides, and remains when the supernatant liquid is poured off, in a very concentrated form. Examined by the microscope, this matter appears to consist of minute globules, as first noticed by Lewenhock, which when mixed with water, are not dissolved, as Mr. B. and Dr. Young contend in opposition to common observation; but still retaining their figure, impart to it the colouring matter, and are then found according to Dr. Young, floating upon the surface. If this account be correct, and when the mistakes into which microscopical observers of the red globules have been led by the deceptive information of their instruments is remembered, we shall be excused for entertaining some doubts; it follows of course, that the colour of these globules is superficial; at least, it seems to us that this must be the case, in order that the globules may be entirely deprived of colour by immersion in a fluid incapable of acting upon the substance with which the colouring matter is united. We hope that Dr. Young will cautiously repeat the experiments which he is now preparing for publication, since without very great circumspection, he may be drawn into the erroneous path which was pursued by Mr. Hewson, one of his precursors in this inquiry.

As this is the first attempt which has been made to ascertain the properties of the colouring matter of the blood in its detached state, a copious account of the several particulars observed, will, we doubt not, be acceptable to many of our readers. On the solution already mentioned, Mr. B. makes the following remarks:

"This aqueous solution is of a bright red colour, and not very prone to putrefaction. When heated, it remains unaltered at temperatures below 190 or 200° of Fahrenheit, at higher temperatures, it becomes turbid and deposits a pale brown sediment. If in this state it be poured upon a filter, the water passes through without colour; so that exposure to heat not only destroys the red tint, but renders the colouring matter insoluble in water. Alcohol and sulphuric ether added to this solution also render it turbid, and when these mixtures were filtrated a colourless and transparent liquor was obtained. The matter remaining upon the filter was insoluble in water, in alcohol and in sulphuric ether; but when digested in dilute muriatic or sulphuric acid a portion was taken up forming a brown solution. I regard this soluble portion as a modification of the colouring matter produced by the operation of heat; the insoluble residuum had the properties of albumen."

Muriatic acid, and the sulphuric when largely diluted, quickly dissolved the colouring principles of the blood; the latter entirely, the former only partially, rendering one portion bright brown and nearly insoluble; the muriatic solution has a dark crimson colour when viewed by reflected light, the sulphuric, a beautiful bright lilac colour. Both the solutions acquire from transmitted light a green colour, which is indeed observable in all the acid solutions, and in some a very remarkable degree. Nitric acid even largely diluted, always produces a decomposition of the colouring matter, and a few drops convert to a dark brown, the solutions just described. Acetic, oxalic, citric and tartaric acids, are active solvents of this part of the blood, exhibiting different shades of red or scarlet when seen by reflected light.

Each of the alkalis both in the pure and carbonated state, forms a deep red compound with the colouring principle of the blood; these solutions are very permanent; the red colour is retained even when they are evaporated to dryness. If the alkaline solutions are supersaturated with dilute, sulphuric or muriatic acid, they acquire a colour similar to that of the direct solutions in these acids; whilst nitric acid previous to the saturation of the alkali, heightens the colour of each compound, and when in excess, renders them first orange, and lastly yellow.

Concluding, that like the colouring matters making a part of other coloured substances, that of the blood might be brought firmly to adhere to different surfaces by means of the affinities of intermedia, Mr. Brande, in order to complete the inquiry, endeavoured to discover appropriate mordants. Alumine and allum, both much employed with this intention by the dyer, he found inefficient, the colours though bright, not being permanent. Oxide of tin, combined with the colouring principle by mixing muriate of tin with the aqueous solution, lost its brilliant tint and became a dull red, when dried by exposure to the air of a warm room; the attempt was equally unsuccessful when potash was added, more completely to decompose the muriate, or when supertartrate of potash was presented to the oxide and colouring matter, in imitation of the process for dying scarlet with cochineal. The brilliancy of colour although considerable, was never permanent. The alkaline solution of colouring matter with a solution of tannin, gave a colour equal to that of a common madder, red and apparently fixed; but the most effectual mordants discovered by Mr. Brande, are solutions of the nitrate of mercury and corrosive sublimate. By impregnating pieces of woolen cloth, with solutions of nitrate of mercury and corrosive sublimate, and afterwards immersing them into the usual solution of the colouring matter of the blood, he succeeded in imparting to them a permanent red tinge, unalterable by the action of soap. By employing the ammoniacal instead of the aqueous solution with the same mordants, calico and linen will receive a permanent colour.

Mr. Brande had an opportunity, while engaged in examining the colouring matter of blood, of analysing some of the menstrual discharge of a woman with prolapsus uteri, and therefore unmixed with other fluids. It exhibited the properties of a very concentrated solution of the colouring matter of the blood in dilute serum, and when exposed to the usual analysis no traces of iron could be detected; had the intense colour been derived from iron, this metal ought to have been discovered in proportionate abundance. No globules could be perceived in this fluid, although putrefaction had not advanced so far as to have occasioned their destruction. Like artificial solutions of the colouring matter of the blood, this natural discharge exhibited a green tint when viewed by transmitted light. These circumstances, with others which we cannot now with propriety enlarge, tend to establish an opinion entertained by many respecting the uterine discharge. According to these physiologists, it does not consist of blood poured into the uterus, directly from the vessels spread upon the internal surface, but is the result of that species of vascular action which constitutes secretion; or in other words, it is not blood which is poured out, but a secreted fluid strongly resembling it.

That our readers may be enabled to obtain a complete and connected view of the results of these investigations, we have extracted from the remarks on the experimental details, which constitute the concluding section, the following statement:

"From the experiments related in the second section, it appears that sulphuric acid effects changes upon the coagulum of chyle, similar to those which Mr. Hatchett has observed to result from the action of dilute nitric acid upon the coagulated white of egg. The last substance, however, is not convertible into gelatine by means of sulphuric acid, whereas in these respects the curd of milk resembles that of chyle; this circumstance, as well as the more ready solubility of the coagulum of chyle in dilute, than in concentrated acids, points out a strong analogy between those two bodies.

"The experiments to prove the nonexistence of gelatine in the serum of blood, will, I trust, be deemed sufficiently decisive; they shew that that abundant proximate principle of animals is not merely separated from the blood in which it has been supposed to exist ready formed, but that it is an actual product of secretion.

"The proportion of iron afforded by the incineration of several varieties of animal coal, is much less considerable than we have been led to suspect, and the experiments noticed in the fifth section, shew that it is not more abundant in the colouring matter of the blood, than in the other substances which were submitted to examination; and that traces of it may be discovered in the chyle which is white, in the serum, and in the washed crassamentum or pure fibrina.

"The inferences to which I have alluded in the first section, are strongly sanctioned by these facts, and coincide with the opinion which has been laid before the Royal Society by Dr. Wells, respecting the peculiar nature of the colouring principle of the blood, and support the argument there induced.

"That the colouring matter of the blood is perfectly independent of iron, is sufficiently evident from its general chemical vicissitude, and it appears probable, that it may prove more useful in the art of dying, than has hitherto been imagined, since neither the alkalis nor the acids, with the exception of the nitre, have much tendency to alter its hue."

Since we became acquainted with the satisfactory experiments performed by Dr. Wells, many of which we have repeated with similar results, we never could adopt the opinion, that the colour of blood is derived from the oxide of iron which it may contain. We also believed, as Mr. Brande now believes, that the variations which under different circumstances its colour has been long observed to exhibit, were dependent upon changes in the arrangement or combination of its constituent parts, and not upon different states of oxidizement of iron. Still, however, the argument so far as it depends upon Mr. Brande, is left without the full force of demonstration, because he has not given to it that weight which will always be derived from great precision, in regard to quantity. When he shews us animal substances which contain iron and yet are without colour, he proves sufficiently, that iron is not necessarily connected with colour; but when he asserts that two fluids differing in the intensity of their colour do not owe that colour to the iron which each contains, because the quantity in each is similar, we feel dissatisfied without knowing what the actual quantities are, and without determining by actual comparison that they are equal. They must be exactly equal, or less in the more intense, to make the argument complete. The subject, as we are sure Mr. B. is well aware, is not yet exhausted; and when he resumes these inquiries, for which no chemist is better qualified, we hope he will be fully impressed with the necessity, whilst attempting to settle such perplexed questions, of pursuing the most severe and rigorous mode of investigation.

INTELLIGENCE.

Philosophical Transactions of the Royal Society of London, for the year 1812. Part II. 4to. 187 pages, with 12 plates. This part contains the following paper. 1. Observations of a second Comet, with remarks on its construction. By William Herschel, L.L. D. F. R. S. 2. Additional Experiments on the Muriatic and Oxymuriatic Acids. By William Henry, M. D. F. R. S. &c. 3. Of the Attraction of such Solids as are terminated by planes; and of solids of greatest attraction. By Thomas Knight, Esq. 4. Of the Penetration of an Hemisphere by an indefinite number of equal and similar Cylinders. By Thomas Knight, Esq. 5. On the Motions of the Tendrils of Plants. By Thomas Andrew Knight, Esq. F. R. S. 6. Observations on the Measurement of three degrees of the Meridian, conducted in England by Lieut. Col. William Mudge. By Don Joseph Rodriguez. 7. An account of some Experiments on different Combinations of Fluoric Acid. By John Davy, Esq. 8. On a Periscopic Camera Obscura and Microscope. By William Hyde Wollaston, M. D. Sec. R. S. 9. Farther Experiments and Observations on the Influence of the Brain on the generation of animal heat. By B. C. Brodie, F. R. S. 10. On the different structures and situations of the Solvent Glands, in the digestive organs of Birds, according to the nature of their food, and particular modes of life. By Everard Home, Esq. F. R. S. 11. On some Combinations of Phosphorus and Sulphur, and on some other subjects of Medical Inquiry. By Sir H. Davy, Knt. Sec. R. S. List of Presents: Index. *Nicholsons' Journal. Jan.* 1813.

A meteoric stone, of the weight of 15lbs. fell to the earth on the 1st of March, 1811, in the village of Konleghowsk, dependent on the town of Romea, in the government of Tschernigoff, in Russia, and making part of the domains of Count Golovkin. Its fall was preceded by three violent claps of thunder. When it was dug out from the depth of more than three feet, through a thick layer of ice, it still possessed heat. It was remarked, that at the third clap of thunder there was an extraordinary explosion, with a loud noise, and throwing out a great quantity of sparks.

A new comet was discovered by M. Pons, of Marseilles, on the 20th of July. Its course was then between the feet of the Camel-leopard and the head of the Lynx. It was discovered afterwards at Paris, by M. Bouvard; and, according to the calculations of these astronomers, it passed its perihelion on the 15th of September, when its distance from the sun, taking that of the earth at unity, was at 0,77835, and its inclination to the ecliptic is 74° 50′. *Nicholsons' Journal. Jan.* 1813.

Since the occurrence of the cases reported in this number of the Journal, under the head of *Collections of Morbid Anatomy*, many similar diseases have appeared in this town and vicinity. The morbid changes of structure, observed in the two cases alluded to, have been repeatedly noticed.

Bichât on the Membranes.

It gives us great pleasure to announce, that a medical gentleman of this town is engaged in the translation of *Bichat's*

CELEBRATED TREATISE ON THE MEMBRANES. This work, admitting of a more direct practical application, has been the most popular of the productions of that distinguished physiologist. In this he first traced the outlines of that system, which has since been exhibited to the world. The translation is considerably advanced. It will be faithfully executed, and comprised in a small octavo volume.

Botanical Lectures.

The Board of Visitors for Natural History, having effected an union between the Lectures of Professor PECK and those proposed by Dr. BIGELOW; a course by those gentlemen in Boston will be immediately commenced.

Medical and Philosophical Lectures in Harvard University.

The spring and summer courses of Lectures are given at Cambridge, with the exception of the course on Botany, which has been recently established.

The Lectures on *Anatomy and Surgery* will commence on the first Tuesday in April. *By Dr. Warren and Dr. Warren, jun.*

Lectures on *Botany*, on the first Wednesday in April. *By Professor Peck and Dr. Bigelow.*

Lectures on *Natural and Experimental Philosophy*, about the middle of April. *By Professor Farrar.*

Lectures on *Chemistry and Materia Medica*, in June. *By Dr. Dexter and Dr. Gorham.*

DR. THATCHER is about favouring the public with a new edition of his valuable Dispensatory. Many improvements and additions of new articles not contained in the first edition, are to appear in this.

RECENT FOREIGN PUBLICATIONS.

Cases of Apophixy and Lethargy, with observations upon the Comatose Diseases. By J. Cheyne, M. D. &c. 8vo. 8s.

The Morbid Anatomy of some of the most important parts of the Human Body. By Matthew Bailey, M. D. F. R. S. L. & E.

Medical Admonitions to Families respecting the Preservation of Health, and the Treatment of the Sick. Also, a Table of Symptoms serving to point out the degree of Danger, and to distinguish one Disease from another, with observations on the improper indulgence of Children, &c. By James Parkinson, Hoxton. 8vo.

The Physician's Vade Mecum. By Robert Hooper, M. D. A new edition.

Letters to a Student in Medicine on his commencing Practice, containing a Comparison of the condition of Naval, Military and Private Practitioners, with a few directions to Medical Gentlemen who propose entering the Royal Navy. By John Strang, surgeon R. N. 8vo. 3s.

Observations on Diseases of the Liver, and on the effects of Mercury in their Treatment. By Thomas Mills, M. D. 8vo.

Reecan Pandect of Medicine, containing a new Nosological Arrangement of Diseases. By Richard Reice, M. D. Royal 8vo.

A Dissertation on the Bite of a Rabid Animal. By James Gilman, F. L. S. 8vo. 7s.

Nosology, or Diseases arranged in their classes, orders, genera and species, with accurate definitions; translated from the Latin of William Cullen, M. D. 12mo. 2s.

The Principles of Botany and of Vegetable Physiology; translated from the German of D. C. Wildenow. Plates. 8vo. 15s.

Observations on the contracted Intestinum Rectum, and the mode of treatment, accompanied with cases, illustrative of the different Morbid Appearances attendant on the Complaint, to which are subjoined two engravings of the Disease. B. J. White. 12mo.

A review of Mr. Everard Home's Practical Observations on the Diseases of the Prostate Gland, and of his important Anatomical Discovery. By Jesse Foote, surgeon. 8vo. 2s.

Elements of the Science of Botany, as established by Linneus; with Examples to illustrate the Classes and Orders of his System. 3 vols. 8vo. Third edition.

Report of the Medicinal Effects of an Aluminous Chalybeate Water, lately discovered at Sandrocks, in the Parish of Chall, in the Isle of Wight, pointing out its efficacy in the Walcheren and other Diseases incident to Soldiers who have served abroad, and more particularly the advantages to be derived from its introduction into private Practice. By William Lempriere, M. D. 8vo. 5s. boards.

An Essay on the Probability of Sensation in Vegetables, with additional observations on Instinct, Sensation, Irritability, &c. By James Perchard Tupper. 8vo. 5s.

The History of the Royal Society from its Institution to the end of the Eighteenth Century. By Thomas Thomson, M. D. F. R. S. L. and E. 4to.

A Dissertation on the Foot of the Horse, and on Shoeing. By Bracey Clarke. 4to.

A series of Plates of the Brain, with references exhibiting the Appearances of that Organ in the different stages of Dissection; with Descriptions and Directions for the Developement of that Organ for Dissection, together with Observations on its various Parts. By Alexander Ramsay, M. D.

Pharmacologia, or the History of Medicinal Substances, in order to enable the Practitioner to describe them with efficacy and elegance, and to dispense them with accuracy. By John Ayrton, Paris. M. B. F. L. S.

Correct Synopsis of the London Pharmacopæias of 1787 and 1809, exhibiting in the first column an alphabetical List of Articles changed either in name or in preparation, and in the second column, their Synonyms, if any.

Physiological Reflections on the Destructive Operation of Spirituous and Fermented Liquors on the Animal System. By Thomas Forster, F. L. S.

An Explanation of the Causes why Vaccination has sometimes failed to prevent Small Pox, and also a description of a method confirmed by experience of obviating such causes. By Edward Leese.

A System of Chemistry. By John Murray, F. R. S. E. Third edition. 4 vols.

A Supplement to the second edition of a System of Chemistry, containing the principal Additions to the Third Edition; and a view of the recent discoveries in the Science. By John Murray, F. R. S. E.

Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, illustrated with Copperplates. Vol. 3. 8vo.

Anatomical Examinations, a complete Series of Anatomical Questions with answers; the Answers arranged so as to form an Elementary System of Anatomy, and intended as preparatory to Examination at Surgeons' Hall. To which are annexed Tables of the Bones, Muscles and Arteries, corrected, in 2 vols. 12mo. 12s.

A Treatise on Veterinary Medicine. By James White. Vol 1. 10th edition.

Philosophical Transactions, part 1. for 1812. 4to. 18s.

A Description of the Arteries of the Human Body. By John Barclay, M. D. 12mo. 7s.

A Practical Treatise on the superior efficacy and safety of the Dolichos Pruriens, or Cowhage, internally exhibited in diseases occasioned by worms. By William Chamberlaine. 10th edition. 8vo. 4s.

Elements of Physiology. B. A. Richerand. 8vo. 12s.

Conspectus Medicine Theoreticæ and Usum Academicum. Auctore Jacobo Gregory, M. D. 1 vol. 8vo. 16s.

Novum Nosologiæ Methodicæ Systema. A. F. Swediaur, M.D.

A series of Engravings, accompanied with Explanations, intended to illustrate the Morbid Anatomy of some of the most important parts of the Human Body, divided into ten Fasciculi. By Matthew Baillie, M. D. F. R. S. L. & E.

Practical Observations on Ectropium, or Eversion of the Eyelids, with the description of a new operation for the cure of that disease, with coloured plates. By Wm. Adams. 8vo. 12s.

Tyrocinium Medicum, or a dissertation on the duties of Youth apprenticed to the Medical Profession. By Wm. Chamberlain.

The English Olive-Tree, or a treatise on the use of Oil and the Air Bath. By Rev. Wm. M. Trinder, L. L. B. 8vo. 3s.

Transactions of the Entomological Society of London. Vol. 1. part 3.

A Letter in Reply to Pharmacopola Verus, and a True Surgeon, with Propositions for Parliamentary Regulations. By a Mixed Practitioner.

Nouvelle Doctrine Chirurgicale. Par J. B. F. Leveille, D.M. 8vo.

The First Lines of the Practice of Surgery, a new edition. By Samuel Cooper. 8vo.

A Treatise on the Blood, Inflammation and Gun-shot Wounds. By the late John Hunter.

Medical Observations and Inquiries. By a Society of Physicians in London. An account of a case of recovery after an extraordinary accident, by which the shaft of a chaise had been forced through the thorax. By William Maiden.

An Essay on Diet and Regimen as indispensable to the recovery and enjoyment of firm health, especially to the indolent, studious, delicate, and invalid; with appropriate cases. By J. M. Adair, M. D. 8vo.

An Inquiry into the Structure and Animal Economy of the Horse, comprehending the diseases to which his Limbs and Feet are subject, with proper directions for shoeing. By Richard Lawrence.

The Morbid Anatomy of the Liver; being an inquiry into the anatomical character, symptoms and treatment of certain diseases, which impair or destroy the structure of that Viscus. By J. R. Farre, M. D.

Callow's Catalogue (Part 11 for 1813) of Elegant Books with Plates; Libri Medici, Anatomici, Chirurgici et Chemici; with an extensive assortment of French, Italian and German works many of which are recently imported; including a selection of second hand English Books, many of them of great rarity.

A Treatise on Worms and many other animals which infest the human body; with the most speedy, safe and pleasant means of cure. By T. Bradlee, M. D.

Cursory Remarks on Corpulency. By a member of the Royal College of Surgeons. The second edition and illustrated by an engraving. Callow.

RECENT AMERICAN PUBLICATIONS.

The Philosophy of Experimental Chemistry. By James Cutbush, Professor of Chemistry, Mineralogy and Natural Philosophy in St. John's College. Philad.

Memoirs of the Columbian Chemical Society. Philad.

Nosologia Methodica; series classium et generum et specierum et varietatum morborum exhibens. Auctore J. B. Davidge, A. M. M. D. Baltimore.

IN PRESS.

Richerand's Physiology with Notes. A. Finley, Philad.

Stone on the Diseases of the Stomach and Indigestion.

Dr. Thatcher's American Dispensatory, second edit. enlarged.

TO CORRESPONDENTS.

The Editors are indebted to several medical friends for communications which came too late for this number. To the gentleman who obligingly favoured them with a Biographical Sketch of the late Dr. Lloyd, they have to apologize, that the article on that subject in the present number, had gone to the press, before the receipt of his interesting paper. An account of an hæmorrhagic disposition in the individuals of a family will appear in our next.

METEOROLOGICAL JOURNAL,

FOR JANUARY, 1813.

		Thermometer.			Baro.	Wind.		Weather.	
	Day of	7 A.M.	3 P.M.	10 P.M.	3 P.M.	7 A.M.	10 P.M.	Day.	Night.
	1	35°	38°	35°	29,90	N. E.	N. E.	Cloudy	Cloudy
○	2	45	50	50	29.40	S.	S.	Rain	Rain
	3	35	35	30	29.10	W.	W.	Fair	Fair
	4	28	34	30	29.60	N.W.	N.W.	Ditto	Ditto
	5	25	25	20	29.90	N.W.	N.W.	Ditto	Ditto
	6	20	28	29	29.95	W.	S. W.	Ditto	Cloudy
	7	30	39	36	29.65	S. W.	S. W.	Cloudy	Snow
	8	8	8	1	29.76	N.W.	N.W.	Fair	Fair
☽	9	6	23	27	30.06	W.	S. E.	Snow	Ditto
	10	26	23	13	30.20	W.	N.W.	Fair	Ditto
	11	9	25	17	30.60	N.W.	N.W.	Ditto	Ditto
	12	22	36	30	30.07	S. W.	S. W.	Ditto	Ditto
	13	30	40	30	29.63	S. W.	N.W.	Cloudy	Ditto
	14	15	23	20	30.15	N.W.	N. E.	Ditto	Snow
	15	17	17	17	29.45	N. E.	W.	Snow	Fair
●	16	8	31	31	29.92	N.W.	S. W.	Fair	Ditto
	17	32	41	32	29.67	W.	W.	Ditto	Ditto.
	18	30	35	25	30.00	N.W.	N.W.	Ditto	Cloudy
	19	24	44	39	29.38	S.	S.	Rain	Snow
	20	27	25	19	29.60	N.W.	N.W.	Fair	Fair
	21	25	36	29	29.70	W.	W.	Ditto	Ditto
	22	27	32	30	30.10	S. W.	S. W.	Ditto	Ditto
	23	28	32	22	30.18	N.W.	N.W.	Ditto	Ditto
☾	24	32	33	32	29.85	E.	E.	Snow	Cloudy
	25	27	29	32	29.64	N.W.	N.W.	Rain	Hail
	26	26	22	15	29.75	N.W.	N.W.	Snow	Fair
	27	2	16	8	30.45	N.W.	N.W.	Fair	Ditto
	28	10	27	26	30.30	W.	W.	Cloudy	Snow
	29	27	32	8	29.65	N.W.	N.W.	Fair	Fair
	30	5	3	6	30.38	N.W.	N.W.	Ditto	Ditto
	31	2	26	25	30.25	S. W.	S. W.	Ditto	Snow

Mean temperature, 29°.
Mean pressure 29. 61.
Quantity of rain, 1 inch.
Quantity of snow 24 inches.

METEOROLOGICAL JOURNAL,

FOR FEBRUARY, 1813.

		Thermometer.			Baro.	Wind.		Weather.	
	Day of	7 A.M.	3 P.M.	10 P.M.	3 P.M.	7 A.M.	10 P.M.	Day.	Night.
○	1	31°	35°	8°	29.58	N.W.	N.W.	Fair	Fair
	2	4	20	9	30.10	N.W.	N.W.	Ditto	Ditto
	3	13	31	26	30.20	S. W.	S. W.	Cloudy	Cloudy
	4	32	35	32	29.97	S.	N.W.	Snow	Snow
	5	32	40	34	29.82	S. E.	S. E.	Cloudy	Cloudy
	6	29	38	35	29.70	S. W.	S. W.	Ditto	Ditto
	7	35	38	37	29.65	S. E.	E.	Ditto	Rain
☽	8	34	43	34	29.72	W.	W.	Fair	Fair
	9	33	40	36	29.96	W.	E.	Cloudy	Snow
	10	35	40	30	29.82	N.W.	N.W.	Fair	Fair
	11	31	40	32	29.70	N.W.	N.W.	Ditto	Ditto
	12	27	39	35	29.60	S. W.	S. W.	Cloudy	Rain
	13	33	32	21	29.25	W.	N.W.	Fair	Fair
	14	12	26	25	29.87	N.W.	W.	Ditto	Ditto
●	15	27	37	21	29.80	S. W.	W.	Ditto	Ditto
	16	15	26	21	30.18	N.W.	N.W.	Ditto	Ditto
	17	20	39	37	30.	S.	S.	Cloudy	Ditto
	18	22	32	20	30.08	N.W.	N.W.	Fair	Ditto
	19	12	32	11	30.38	N.W.	N.W.	Ditto	Ditto
	20	10	20	18	30.46	N.	N.	Cloudy	Cloudy
	21	17	25	26	30.04	N. E.	N. E.	Ditto	Snow
	22	34	35	32	29.86	N.	W.	Cloudy	Fair
☾	23	25	32	26	29.98	W.	W.	Fair	Ditto
	24	25	36	27	30.02	W.	W.	Ditto	Ditto
	25	26	45	40	29.54	S. W.	S.	Ditto	Ditto
	26	12	18	8	30.05	N.W.	N.W.	Ditto	Ditto
	27	8	25	22	30.34	N.W.	W.	Ditto	Snow
	28	30	47	40	29.54	S. W.	S. W.	Ditto	Rain

Mean temperature, 27$\frac{1}{2}$°.
Mean pressure, 29. 90.
Quantity of rain, 2 inches.
Quantity of snow, 6 inches.

METEOROLOGICAL JOURNAL,

FOR MARCH, 1813.

		Thermometer.			Baro.	Wind.		Weather.	
	Day of	7 A.M.	3 P.M.	10 P.M.	3 P.M.	7 A.M.	10 P.M.	Day.	Night.
	1	37°	38°	29°	29.24	E.	N.W.	Rain	Snow
○	2	32	40	26	29.64	N.W.	N.W.	Fair	Fair
	3	21	28	27	29.75	S. E.	S. E.	Snow	Cloudy
	4	30	38	34	30.	W.	W.	Fair	Fair
	5	28	36	28	29.80	N.W.	N.W.	Snow	Ditto
	6	2	12	6	30.25	N.W.	N.W.	Fair	Ditto
	7	10	26	18	30.13	N.W.	N.W.	Cloudy	Ditto
	8	18	25	20	29.95	N.W.	N.W.	Snow	Ditto
☽	9	15	31	18	30.05	N.W.	N.W.	Fair	Ditto
	10	20	45	38	29.94	W.	S. W.	Ditto	Cloudy
	11	36	40	37	29.64	N.	N.	Cloudy	Rain
	12	35	30	22	29.46	N. E.	N. E.	Snow	Fair
	13	26	34	24	29.65	N.W.	N.W.	Fair	Ditto
	14	18	35	38	29.70	W.	S. W.	Cloudy	Rain
	15	27	31	25	30.02	N.W.	W.	Fair	Fair
●	16	25	27	30	30.22	N.	N.	Snow	Cloudy
	17	34	35	35	30.02	N.	N.	Rain	Rain
	18	35	35	36	29.90	N.	W.	Ditto	Fair
	19	43	40	32	30.	W.	N.W.	Fair	Ditto
	20	28	40	39	30.08	S. W.	S. W.	Ditto	Ditto
	21	25	29	25	30.30	N.W.	N.W.	Ditto	Ditto
	22	29	41	40	29.82	S. W.	S. W.	Cloudy	Fair
	23	45	53	48	29.67	W.	W.	Fair	Ditto
	24	38	30	18	30.	N.W.	N.W.	Ditto	Ditto
☾	25	10	25	18	30.38	N.W.	N.W.	Ditto	Ditto
	26	25	38	30	30.39	W.	W.	Ditto	Ditto
	27	27	41	36	30.45	W.	E.	Ditto	Ditto
	28	39	45	47	30.03	S. E.	S.	Rain	Rain
	29	45	50	36	29.88	W.	N.W.	Fair	Fair
	30	40	52	40	30.03	N.W.	N.W.	Ditto	Ditto
	31	33	40	34	30.	N.	N.	Ditto	Ditto

Mean temperature, 31°$\frac{1}{4}$.
Mean pressure, 30. 15.
Quantity of rain, 4. 10 inches.
Quantity of snow, 14 inches.

THE

NEW ENGLAND JOURNAL

OF

MEDICINE AND SURGERY.

Vol. II.] JULY, 1813. [No. III.

OBSERVATIONS

ON

CHRONIC DIARRHÆA,

ARISING FROM AN ULCERATED STATE OF THE INTESTINES.

BY JOHN GORHAM, M. D.

The subjects of this disease are found in the lower classes of society, and it is most frequently met with in hospital practice. Having had several opportunities of witnessing its progress, and, after death, of ascertaining by dissection, the morbid changes in the intestines, on which it depended, I have thought that a concise account of its symptoms, and of the influence of medicine in alleviating them, might, perhaps, afford some useful hints to those who are entrusted with the medical department of such public institutions.

The disease is generally confirmed before the patient is admitted; and the physician can do little more than record protracted sufferings and a fatal termination. The most prominent symptom is a purging, more or less severe; the stools are thin and frothy, sometimes slimy, small in quantity, and occasionally mixed with blood, and rarely with pus. The discharge is preceded by pain about the umbilicus, and frequently succeeded by violent straining and tenesmus. The number of discharges varies exceedingly in different cases, but in all it is increased at night. The pulse is in some moderately full and frequent, in others small and quick; the skin is dry and husky, the tongue either dry, parched and covered with a thin whitish crust, or clean and moist; a clammy or bitterish taste is frequently perceived; the thirst is always urgent; the appetite for the most part is much impaired, but in a few cases it has been good until within a few days of death. With these symptoms are usually joined those of dyspepsia, such as eructations, a sense of fulness and of weight about the præcordia, heartburn and occasional pain and vomiting after eating.

As the disease advances, the countenance becomes sallow and sharp, the fat in the cellular membrane is gradually absorbed, and the body exhibits great emaciation; the patient complains of considerable debility, slight rigors are experienced, followed by flushings of the face; pains are felt about the neck and shoulders, and a stiffness is perceived in the lower extremities; serous effusions take place first in the feet, and the ædema extends along the legs even to the penis and scrotum. These are followed by ascites and hydrothorax, and in one case I have seen the effusion even in the face and upper extremities. At this period the urine is scanty, high coloured, and deposits on standing a flocculent mucous substance, or a greyish white, sometimes a reddish sediment in considerable quantities. The lips lose their colour, the countenance is meager and pale, or saturnine and of a waxy appearance; difficulty of respiration harasses the patient, the debility becomes extreme, and a miserable existence is at length terminated from the effects of pain, inanition and universal dropsy.

These symptoms vary greatly in degree in different cases. In all, the purging is the most obvious and most constant; but in some, the appearances of effusion into the cavities of the abdomen and thorax are wanting; and in others, the quantity of blood discharged is small, and there have been no indications of pus.

On repeated dissections the following morbid changes have been observed.

The muscles were thin, they had nearly lost their red colour, and had the appearance of having been macerated. Serous fluid issued from the cellular texture. The abdomen contained a yellowish translucid fluid, varying in quantity in different cases. The liver was generally shrunk, the gall bladder distended, although the ducts were pervious and the spleen and mesenteric glands were enlarged. The stomach, duodenum, jejunum and part of the ileum were often found without any peculiar marks of disease, but in one or two instances all these portions of the alimentary canal exhibited erosions of the internal coat. For the most part the seat of the disease has been in the lower portion of the ileum, in the cœcum and the colon almost to the rectum. When these parts were examined, a number of erosions, or ulcerations were discovered, varying in extent from one line to more than an inch in diameter, the villous coat in all having been destroyed, and in some even the muscular fibres of the middle coat. I have generally found these ulcers to be most numerous at or near the junctions of the ileum and colon with the cœcum. The number, however, varied in different cases. In some, there were but a few of a large size, while in others, they were exceedingly multiplied. The edges of these ulcers were slightly elevated, jagged and irregular, and a diffused redness appeared in the peritoneal coat immediately over them. Their surfaces were usually covered with a tenacious mucus, and sometimes, though rarely, the intestine around and the peritoneal covering were sphacelated. The engraving of these ulcers given in the works of Dr. Stark, is very accurate.* From the long continued purging in this disease it might be supposed that the intestines would contain nothing but flatus, but, in several cases, the cœcum and part of the colon were found filled, though not distended, with dark coloured tenacious fœces of an intolerable odour. In two cases, lumbrici were discovered in the ileum.

---

* Stark's Works, 4to. London. 1788.

The origin of this disease can generally be traced to exposure to cold. The subjects of it are those who are addicted to the immoderate use of ardent spirits, and who, while intoxicated have been exposed to the vicissitudes of the seasons, or to the night air without any other protection from the weather than their clothes. It may, however, be produced by other causes more immediately applied to the internal surfaces of the intestines. Highly acrid substances, or drastic purgatives taken into the stomach, may bring on hyper-catharsis and inflammation, which shall terminate in ulceration, and I have now under my care a deplorable case of this disease, the consequence of confiding in the promises, and taking the medicines of a notorious empyric.

This complaint is of a chronic nature. Its progress is slow and it gradually wastes the body of the patient by almost imperceptible degrees. Its usual period, particularly when the most prominent symptoms have been in some measure alleviated by appropriate medicine, is from one to four years. It is commonly, if not uniformly, fatal; and this unfortunate termination is to be accounted for, not only from the nature and seat of the disease itself, but also from its being frequently complicated with organic affections of the other abdominal viscera.

From its seat, it is obvious that the diseased part must be continually irriated by the application of substances taken into the stomach as food, but which from the imperfect state in which the functions of that organ are performed, are not completely digested. By their stimulant operation they increase the natural motion of the muscular fibres, this action is probably communicated to the exhalents and mucous follicles, by which a larger quantity of fluid is poured into the intestines, and the discharge, if not continually increasing, is at least, rendered permanent. From the impossibility of making any direct application to the ulcerated surface, we are prevented from using the only means which could be successful; and when we add to this the previous habits of the patient and the probability, that there exists disease in some or all of the other chylopoietic viscera, we shall not be at a loss to account for its fatality. Such morbid changes in the abdominal organs independent of those in the intestines, I have frequently observed. In one case, ulcerations about the cœcum were accompanied with extensive disease around the pyloric orifice of the stomach; in a second, with a singular change of structure in the liver, the substance of which appeared to have burst its investing membrance in a great number of places and to have been protruded, resembling a liver which has been long boiled; in a third, with an abscess between the rectum and the posterior portion of the uterus which was ulcerated and laid open. The appendix cœci adhered closely to the walls of the abscess and had allowed the passage of a lumbricus from the intestine to the uterus, in the cavity of which it was coiled; for this appendix penetrated into the abscess, when examined it was found open at both ends, and its bore corresponded with the diameter of the worm. In a fourth case, which was that of a maniac, this disease was complicated with inflammation of the intestines and peritoneum, with large biliary concretions, and with a sphacelus of one portion of the ileum, through which a lumbricus had penetrated into the cavity of the abdomen. With such alterations in structure, and such obvious derangement of functions, as were indicated by the symptoms and exhibited in the examinations of these cases, it is apparent that no mitigation and much less a cure, could be expected from medicine.

As this disease of the intestines arises from an inflammation of their internal coat, it is probable, that if properly treated at its commencement, it might in most cases, be speedily removed. But after it has afflicted the patient for weeks, or months, it can no longer be regarded as enteritis, and it will be found by experience, that, in general, the only indication to be kept in view is to palliate the symptoms, and render the conditon of the patient less miserable.

I shall briefly mention the medicines which have been administered for the purpose, either of effecting a cure, or of restraining the discharge, and the result of their action.

OPIUM.

When this narcotic is given alone, it at first relieves the pain and moderates the discharge in a very considerable degree, and the patient is enlivened with the pleasing idea, that his health will soon be restored. The same effect is produced by injections of mucilaginous liquids mixed with the tincture of opium. The influence of this medicine on the diarrhæa, however, is rarely perceptible beyond a week or ten days, and to produce any degree of alleviation, the dose requires to be rapidly augmented. A habit of taking this drug is thus soon established. The person while the system is excited by it, is rendered comparatively comfortable, but during the intervals, the debility is great and existence becomes a burthen. The only benefit to be derived from its use, is that of relieving pain and procuring a few hours of unrefreshing sleep.

IPECACUANHA AND ANTIMONY.

In those cases where the pulse has been full and frequent, the skin hot and dry, and the strength not much reduced, an emetic of ipecacuanha, followed by small and frequently repeated doses of the same root, has had a beneficial effect by determining to the skin, lessening the quantity of fluids poured into the intestines and weakening the peristaltic motion. Of the preparations of antimony, the vitrefied oxide with wax, recommended by Dr. Stark, has produced the best effect. It was given in a dose of five grains combined with one of opium every sixth hour. In one case, it suspended the discharge and rendered the bowels regular for nearly two months. The patient began to recover his strength and appetite and I anticipated a cure, but the flux returned, and the man died. This case, as I ascertained by dissection, was an ulcerated state of the intestines, apparently unconnected with disease of any other of the abdominal viscera, notwithstanding large serous effusions had taken place in the cavities and the cellular texture.

I have seen a great abatement of all the symptoms, follow the use of the warm bath and subsequent frictions. By this mode, and by the use of opium and astringent medicines, one patient was so much relieved that could the former have been continued, which, from certain circumstances, was quite impracticable, it is probable that a cure might have been effected. This method is best adapted to the disease while recent.

PURGATIVES.

So far as my experience extends, the use of this class of medicines is injurious. When the dyspeptic symptoms have been troublesome, a temporary benefit has been derived from the exhibition of rhubarb in powder, or in tincture. The latter perhaps is preferable.

TONICS AND ASTRINGENTS.

Cinchona and the bitters have had little influence in checking the progress of this disease. The former in the state of powder is injurious, as it always increases the number of discharges and often augments the pain.

Of all the medicines which I have tried, the astringents appear to have had the greatest effect in restraining the profuse diarrhæa.

Of those from the vegetable kingdom, I have most generally employed Kino and Extract of Catechu, in the form of tincture; that of the former being combined with tincture of opium, in the proportion of an ounce of the one, to half or a whole drachm of the other.

Among the metallic tonics and astringents, the acetate of lead and the sulphate of zinc, have operated most favourably on this disease. The former should be combined with opium, or with this narcotic and root of ipecacuanha, as in the following formula

℞ Pulveris, Radicis Ipecacuanhæ gr. xii.
Acetatis Plumbi.
Pulveris Opii. ana. gr. ix.
Mucilaginis. G. Mimosæ niloticæ, quantum satis sit. m. fiat massa, in pillulas duodecim œquales dividenda, quarum unam omni sexta hora, capiat.

The quantity of acetate of lead and of opium may soon be augmented to one grain in each pill, but the use of this metallic salt should not be long continued.

The sulphate of zinc may be conveniently exhibited, dissolved in a decoction of the wood of quassia, or the bark of cascarilla.

QUICKSILVER.

The submuriate, the only preparation of this powerful stimulant, which I have exhibited, has never, to my knowledge, produced the least favourable effect on the disease, or the least remission in the severity of the symptoms. It has been given alone, in combination with opium, and with opium and ipecacuanha, until it excited ptyalism, without any benefit being perceived to result from its action.

Blistering over the abdomen has sometimes had a temporary good effect; and perhaps a perpetual blister, a seton, or an issue might be permanently useful, but neither of these has been tried.

I shall now close these brief observations, with a very few remarks on the diet best calculated for those afflicted with this disease. It should be nourishing, and at the same time composed of those substances which are of easy digestion, and which are not much disposed to become ascescent, such as tender meats, eggs, milk, jellies and simple soups. Except in protracted cases, the functions of the stomach are rarely so far deranged as to prevent the digestion of animal food, and it is only in the advanced stages that a true lientary comes on and the food can be perceived to constitute a part of the alvine dejections. The drink should consist of whey and diluted wine or brandy. Vegetable food in general and all fermented liquors, such as cyder, beer and ale, should be avoided, as they uniformly produce a sense of fulness and distension in the abdomen and augment the number of discharges.

ACCOUNT OF A

REMARKABLE HÆMORRHAGIC DISPOSITION,

EXISTING IN MANY INDIVIDUALS OF THE SAME FAMILY.

BY DR. JOHN HAY, OF READING,
FELLOW OF THE MASSACHUSETTS MEDICAL SOCIETY.

THE first person of whom I have any account, as being subject to the remarkable predisposition to be described, was Mr. Oliver Appleton of Ipswich, about one hundred years since. This man was subject from his youth to profuse bleeding from slight causes. When advanced in life, by a long confinement in bed the skin was worn from his hips and an hæmorrhage taking place from that part and from the urethra, occasioned his death. He left three daughters, two of whom married into a family by the name of Swain, in Reading. Dr. Thomas Swain who married the eldest had by her two sons and five daughters. The two sons both bled to death. During their lives they were liable to violent hæmorrhages from the smallest scratch or injury, the bleeding usually coming on about a week after they were hurt.

Dr. Oliver Swain, July 17, 1770, met with an injury from the kick of a horse, which laid the leg open to the bone, three inches in length. He bled profusely for some hours, suffering extreme pain. After this, there was no farther effusion of blood till Wednesday, 21st, at twelve, at which time, the part began, after dressing, to bleed a little. On Monday, 26th, it was dressed again, bled but a little. Tuesday evening, 27th, bled somewhat. But on Wednesday evening, at eight o'clock, it began to bleed fast, and continued to do so two or three hours. On Thursday, 29th, after dressing bled but little; at eight the hæmorrhage came on again attended with great pain, but went off soon. Friday 30th, small hæmorrhage, all the fore part of the day, with extreme pain. At twelve, began to bleed very fast, and continued bleeding three or four hours; after which time he grew delirious, and remained so till evening, then was more rational, but threatened with fever, notwithstanding his great loss of blood. 31st, in the morning, more comfortable for a short time; he soon, however, lost his senses, and about noon, his speech, and in the evening was thought dying. August 1st, he lay in a restless situation, senseless and speechless, a small bleeding attending. At evening, the bleeding was more profuse, but stopped after dressing. Monday, 2d, lay all day without speaking, until night, he then spoke a few words. Tuesday, 3d, more comfortable, rational, and had his speech, though somewhat bewildered. Dr. Amos Putman and Dr. Thomas Swain, jun. dressed his wound, and found the tibia bare for the size of a cent, but in a good way. Wednesday, 4th, much worse in the morning; in the afternoon, delirious and stupid. Thursday, 5th, very low the fore part of the day, had poultices put to his feet; in the afternoon he had a return of his senses, and was more comfortable than he had been for some days. Friday, 6th, very ill in the morning, greatly distressed for breath. Between eight and nine o'clock, grew much worse, and continued in the greatest distress of body, though somewhat composed in mind, until about one o'clock, when he died, aged 33 years.

Dr. Thomas Swain, jun. having received a small wound on his finger, with a penknife, the hæmorrhage reduced him almost to death. Soon after he became able to ride out, he was attacked with bleeding at his lungs, that closed the scene at the age of thirty.

Gen. Benjamin Brown married the oldest daughter of Thomas Swain, jun. had by her three sons, two of them bleeders, (for this is the distinction they go by) one of them bled to death at the age of fifteen years; the other, now about the age of fifty-four, is living in this neighbourhood. He informed me, a few days since, that he bruised his right hand the last winter, 1810, and although he broke no skin, the blood some time after burst from the bruise, and continued to flow for a fortnight. He supposed he lost two quarts of blood. He has three daughters, and thinks they are in the proper line for bleeders. Age does not exempt them from this disposition. Two of the daughters married into the family of the Nortons; one of them had three bleeders, the other had two; one of these bled to death, the other was drowned. Mr. John Bachilor married a daughter of Dr. Thomas Swain, sen. who had three bleeders; two of whom are dead; the one that is living bled profusely the last winter, 1810. The children of bleeders are never subject to this disposition, but their grandsons by their daughters.

Dr. Oliver Swain has three sons that are living with us, none of whom are subject to bleeding. Dr. Oliver Swain left one daughter, married to Jeremiah Hartshorn, my next door neighbour, who has three bleeders; the oldest of them from a small scratch by a plaything, when nine months old, bled nine days, notwithstanding the application of stypticks, astringents and bark, with preparations of nitre, which were of no avail. The second son has also bled from time to time.

May 5th, 1810, the third son, who is about eight years of age, received a small wound upon two fingers of the left hand, hæmorrhage occurred from one of them only. It has been observed always to be the case, that though many wounds are made, only one bleeds, and the bleeding continues till nothing but a serous fluid issues from it. This patient bled for four days, and the more he bled, the pulse was found to grow more rapid. The countenance was pale and ghastly.—Dr. John Otto has given an account, which I have consulted, of an hæmorrhagic disposition existing in two families, of the names of Smith and

Shepherd, living in the vicinity of Plymouth, New-Hampshire. A person by the name of Appleton, married a Smith of Haverhill, supposed to be the Mrs. Smith mentioned by Dr. Otto.

I have attended three or four persons of this hæmorrhagic disposition, and have found no article answer better than the sulphate of soda, used as follows:

R Sulp. sodæ. unciam unam.

This is to be administered for two or three days in succession; and generally stops the hæmorrhage. A more frequent repetition of the medicine is certain of producing the effect. This practice was very beneficial in the case of Mr. Hartshorn's child. A constipation of the bowels being a never failing evil among them, and vomiting very harassing.

Thomas Swain, junior, left one daughter and one son; the daughter married Mr. Parker, of Reading. She had two bleeders. One of them died with an hæmorrhage about a year since. The other bled profusely the last winter, 1810. Benjamin Swain married the second daughter of Oliver Appleton. She had one bleeder only, although they had two sons and one daughter. The bleeder died with the throat distemper. Mrs. Whipple had but one son of a dark complexion, which is not usual at all with those who are subject to this indisposition, for they are of a florid countenance; are remarkably healthy, and extremely irascible.

Dr. Rush has been consulted twice in cases similar to these, in the course of his practice. The first time by a family in York, and the other by one in Northampton county. A. B. of the state of Maryland, has had six sons, four of them died with the loss of blood from the most trifling scratches or bruises. A small pebble fell on the fore finger nail of one of these children when at play, being one or two years old; in a short time the blood issued from the end of the finger until he died. The physicians could not stop the bleeding. Two of the brothers are now suffering from the same hæmorrhagic disposition; they bleed profusely from the slightest scratch; and the father looks every day for an accident that will destroy them. Ligatures have been applied above the wounds, and a bladder secured over the parts, by the direction of Dr. Brattle of Cambridge, in a former bleeding of Dr. Oliver Swain, the blood has burst out above the ligatures, which has caused extreme distress. It has been observed of these bleeders, that although they may not fall a sacrifice to the hæmorrhage, their lives are of short continuance. Nathaniel Brown, now living in this town, is said to be the oldest person of any of the bleeders since Mr. Oliver Appleton. My oldest son Jonathan P. Hay, married a descendant of Mr. Appleton, and has eight children by her; three sons, the youngest about eight years old, and has the exact complexion of the bleeders, but as yet has not bled more than common. I am apprehensive that he will exhibit the hæmorrhagic disposition. The great grand-mother of Mr. Hartshorn's children, pronounced them bleeders in their infancy; her predictions, with regard to her bleeding descendants, have always been verified.

ON PHLEGMASIA DOLENS.

BY FRANCIS MOORE, M. D. OF IPSWICH.

Phlegmasia Dolens though not a disease of frequent occurrence is very distressing to the patient and perplexing to the physician. Until within a few years it has not been particularly designated and treated of by medical writers. And a great diversity of opinion still subsists among these writers, of the proximate cause of the disease.

An interesting case which lately occurred in my own practice, together with an acquaintance with several others which took place in my neighbourhood, have induced me very particularly to consider the symptoms and progress of the disease, with an endeavour to a more satisfactory explanation of its existing and proximate cause, whereby to regulate the method of treatment. I shall relate two cases.

The first was that of a lady of slender and delicate constitution, aged thirty. A few days succeeding parturition (which was natural, of short duration and unattended with any peculiar symptoms) complained of pain in her right side hip and back accompanied with slight rigors and watchfulness. An opiate and antimonial were taken at bed time which allayed the pain and procured sleep.

As the disease progressed she experienced a rigidity and soreness of the abdominal muscles and integuments of that side, attended with a difficulty of moving the lower limb and pains extending to the knee, and at other times to the calf of the leg. The pulse was but little increased in frequency and but a slight degree of thirst, the tongue perfectly clear. From a knowledge that she had frequently before been affected with rheumatism I continued the antimonials, with the occasional administration of cathartics and the application of fomentations, by means of an infusion of bitter herbs inclosed in flannel.

These means proving inefficacious I had recourse to bark and guaiacum, and kept up a constant irritation on the thigh by blisters, applying another as soon as the first dried. This course evidently increased the local affection. The upper part of the thigh, the inguinal glands, and right iliac region became more tumefied, which gradually extended to the hypogastrium and labium pudendi.

In the early stages of the swelling it appeared in ridges and bunches occasionally assuming a livid, and at other times a purple hue. As it advanced it appeared more uniformly diffused, exceedingly tender to the touch, hotter than natural, shining, but not much discoloured.

The symptomatic fever which had from the beginning kept pace with the local affection, was now much increased, the pulse small and very frequent, and the thirst considerable. The swelling gradually increased, and the patient in addition to the other symptoms sometimes experienced a numbness in the diseased part. With an intention of rousing the action of the absorbents, a volatile stimulating liniment was applied, and in turn hot vinegar; but these had no better effect than blistering.

With the advice of an experienced and highly respectable practitioner, I tried digitalis with a view to its diuretic operation, but as it failed to produce this effect, and increased the debility, I laid it aside.

During the more advanced stages of the disease the inflammatory appearances became more evident, the pain, heat, soreness and redness increased until discharge took place from a ruptured lymphatic in her side, the orifice was about the size of the head of a common pin, situated about an inch from the inferior spinous process of the os ilium.

The fluid discharged on the first day exceeded a pint, resembling a mixture of pus and lymph, its consistence a little thicker than milk, of a pale yellow colour a little inclined to a faint green, and perfectly inodorous, readily coagulating by admixture with muriate of ammonia, and imperfectly by heat but not by dilute sulp. acid; specifically heavier than water and subsiding to the bottom of the vessel without mixing in any degree; on agitation, uniformly diffusing itself and producing a milky appearance. The strength of the patient was supported by bark and wine, and the discharge promoted by a wheat bran poultice.

On the second day the tumour was reduced to one third of its original size, and the pain and uneasiness had completely subsided. I ordered the vol. liniment to be applied to the remaining hard places, and the continuance of the poultice. Half an hour after, a disagreeable feeling at the stomach and a disposition to fainting ensued, on wiping off the liniment these symptoms passed off.

On the third day a disposition to fainting again occurred preceded by a disagreeable feeling at the stomach and coldness of the extremities, and accompanied with a creeping and otherwise indescribable sensation along the course of the spine, to near the first or second true rib. To these symptoms succeeded an increased heat and considerable thirst, with a small and frequent pulse.

Suspecting that the sensation experienced along the spine, being in the course of the great lymphatic trunk, might be occasioned either by the absorption of some of the confined matter, or by the sudden determination of the fluids to their natural channel, I examined the side and found the orifice partially closed, which I opened, and by pressure evacuated half a pint of matter resembling that before described. My patient observed she felt relieved at her stomach and the febrile symptoms immediately disappeared. The matter discharged on the three or four subsequent days contained a large proportion of pus; after which for several days it was perfect lymph.

After about a fortnight the discharge entirely ceased, the tumour disappeared, and the poultice was exchanged for a bandage and compress, and the enfeebled vessels strengthened by astringent losions and gentle friction, by which means a complete cure has been effected.

The second case occurred in a person of a more robust and healthy constitution, aged twenty-eight, supervening on natural and easy labour. On the second day after parturition she experienced great rigidity of the abdominal muscles and integuments, which gradually became more tense and painful. The surface of the swelling, as in the other case, was unequal, having the appearance of bunches and ridges; the symptomatic fever was considerably violent, which was evinced by a frequent pulse, flushed countenance, and great thirst. These symptoms continued to increase until the end of the fifth week, when suppuration (preceded by strong rigors) commenced from a small opening a little below the navel.

The discharge was very copious, and evidently a mixture of pus and lymph. Ulceration in two or three other parts of the abdomen successively took place. The secretion of milk was almost entirely suppressed, and the child taken from the breast. Suppuration continued about six weeks from its commencement, when the tumefaction had completely subsided; but the patient remained in a very debilitated state for nearly six months.

The disease was in this instance considered by the physician a *consumption*, and from the treatment pursued, it is evident nature had her full operation.

"Mr. White attributes the proximate cause of the disease in question, to an obstruction, detention and accumulation of lymph in consequence of some accident happening during labour, or the continued pressure of the lymphatic vessels by the head of the fœtus."

"Mr. Trye thinks it may be occasioned by pressure, or by the absorption of some acrimonious matter."

Dr. Ferriar thinks it may be produced by some violence during labour; but says, "The balance of the circulating fluids is suddenly and violently changed; there are new determinations, new sympathies produced in a state of debility, agitation and anxiety. It cannot therefore surprise us, that, under circumstances so peculiar, a set of vessels commonly exempted from inflammatory affections, should take on an unusual disposition."

Dr. Hull offers the following explanation of its causes. "1st. The increased irritability and disposition to inflammation which prevail during pregnancy, and in a still higher degree for some time after parturition. 2dly. The over distended or relaxed state of the blood vessels of the inferior part of the trunk, and of the lower extremities. 3dly. Contusions or violent exertions of the muscles about the pelvis and thighs. 4thly. Plethora, occasioned by a suppression or diminution of the lochia, or of the secretion of milk. 5thly. Food taken too freely; and, 6thly. Standing or walking too much or too early."

In refutation of Mr. White's opinion I will state, that in no instance that has come to my knowledge, has the disease preceded parturition.

Mr. Trye's theory is mere supposition. In reply to Dr. Ferriar I will adduce the fact, that phlegmasia dolens as frequently follows natural and easy labour, as difficult and laborious.

Without entering more particularly into an examination of these theories, I think them inadequate to a full and rational explanation of the causes.

After an attentive observation of cases, and a careful examination of the subject, I will humbly offer the following explanation, as the most satisfactory to me.

During gestation the abdominal muscles, their vessels and integuments, are in a state of great preternatural distention; immediately after parturition, when the distending cause is removed, these parts powerfully contract in order to regain their natural dimensions. If this effort be unequally exerted, if it be suddenly excited by the application of cold, if the lymphatic vessels be over distended at the time of plethora, or great debility subsists in the vessels themselves, an interruption and accumulation of the fluid ensues; the great and long continued accumulation of which, acting as an extraneous and offending cause, will occasion inflammation. In persons of a plethoric and irritable habit, inflammation may quickly supervene; while on the other hand, in a person of a contrary description it may be more tardy in its progress.

This opinion is rendered still farther probable from the consideration of the fact, that inflammation of the mammæ usually occurs during the early stage of lactation. At this period the vessels are incapable of immediately adapting themselves to the sudden accumulation of the fluids, and from their winding direction do not dilate uniformly throughout their whole course, in consequence of which congestion readily occurs. From their unusual and over distended state, inflammation easily takes place on the sudden application of cold.

In those cases which have come to my knowledge, a swelling and enlargement of the parts has uniformly appeared, first in the lower part of the abdomen and inguinal glands. That a swelling of the inferior extremities should so frequently succeed to an obstruction of the vessels where they enter the abdomen, will be evident to every one who is acquainted with their course.

In reply to the question, why does not this congestion take place in the sanguineous vessels? It may be answered, that the blood circulates more rapidly, is impelled with greater force, and the vessels do not pass through a congeries of glands.

In the ordinary mode of treatment, much time is lost in the inefficacious use of diuretics; and much mischief and pain produced by the application of blisters and other stimulating remedies. From the low state of sensibility in the lymphatic vessels, inflammation proceeds slowly, and the delay occasioned by the neglect of proper means, or by the use of improper remedies, adhesive inflammation takes place, which often aggravates the disease and renders the cure very tedious and difficult.

From the view here taken of the subject, I am fully disposed to regard it as a local disease, and decidedly recommend the early application of a large emollient poultice, which by its relaxing and resolving power, will in a great majority of cases, prevent the formation of a distressing and tedious disease. And where it does not produce this most desirable effect, I should recommend its continuance with an intention of producing early suppuration, which I think next to resolution, the most speedy and safe termination of the disease.

Note. The distinguished physician and philanthropist, Dr. Lettsom, of London, makes some remarks on this disease, in a late letter to one of the editors, which it seems proper to introduce in this place. "The disease, called, by the French writers, "dépot de lait," has been elaborately written on by Drs. White, Ferriar and Hull, of Manchester. The first severe case of it came under my care about thirty-five years ago; but I have since frequently seen it. It is painful and alarming in some instances, though it soon yields to medical treatment. If the pain be considerable it may be allayed by fomentation of poppies; but usually, an embrocation of spiritous mindereri, or weak solution of acetite of lead with the aid of gentle pressure by a flannel or calico bandage, soon dissipates the swelling; and with the internal use of tonics, such as infusum rosæ, or cinchonæ, the strength and general health are soon restored."

OBSERVATIONS ON

PUERPERAL FEVER WITH DIARRHÆA.

BY WALTER CHANNING, M. D.

The name puerperal fever has been long in use to designate a disease, incident to the puerperal state. It is applied equally by all authors, whether they consider the disease as merely inflammatory, or more strictly febrile. It is a disease, let its nature be what it may, (for it is not the design of the author of these observations to determine that,) marked by very striking symptoms, and by a no less remarkable fatality.

In private practice it is of comparatively rare occurrence, and has been found when immediately attended to on its first appearance, to have yielded, in most instances, to such remedies as the symptoms seemed to demand. In hospitals on the contrary, under every variety of treatment, the fatality which has attended it has scarcely been parallelled by any other disease. It is not my design to give a history of the disease, its symptoms, &c. for these are all detailed in books on practice. My chief object is to relate two cases which have come under my notice, and one of them under my particular care, with such remarks as their peculiar symptoms have suggested.

Case 1st. Mrs. M. about forty years of age, the mother of ten children, suffered rather more during her illness with the eleventh, in December, 1812, than with either of the preceding. For some time previous to her confinement, she had been troubled with a cough; not very severe, however, and from which her general health did not seem to be sensibly affected. She was as well as usual the first day after her illness, and on the second, her physician prescribed a cathartic medicine which her situation required. He called in the evening and found her as she thought, still under the operation of her medicine. But the profluvia still being very great, their number being unusually frequent, and the patient very much exposed to cold during each operation, it was judged necessary to exhibit an opiate to moderate or check them. In the morning, however, it was found that they had neither been moderated in frequency or quantity, nor that the patient had slept during the night. The lochia were also found to be diminished. Her pulse was now very frequent and small. The strength very much prostrated, and the respiration laborious. There had been chills and heat, succeeded by profuse sweats on the face and upper extremities, circumscribed redness on the cheeks, and the tongue dry and of a brown colour.

There was, however, but little soreness of the abdomen, and very little tension. Opium in a variety of forms, and tonic stimulant medicines were exhibited, but with no apparent benefit. I saw Mrs. M. on the morning of the fourth day of her disease, the fifth from her confinement, I carefully counted her pulse, and found them one hundred and sixty beats in the minute, a circumscribed blush on the cheeks, and the face, neck and upper extremities covered with that peculiar moisture which is found, more or less frequently to break out previous to the fatal termination of those diseases, which have been remarkable for excessive evacuations and extreme prostration of the whole system. There was no confusion of mind, and very little soreness of the abdomen, and this was most apparent on pressure. There appeared no one circumstance to warrant a prognosis at all favourable. The stomach appeared irritable from some efforts to vomit, and from the actual discharge of a porraceous matter, and ipecacuanha was given to emesis, and for a time the profluvia were a little diminished; opiates, tinct. of bark and wine combined were prescribed, and a blister applied over the abdomen. The patient, however, continued to sink, and on the seventh day from the delivery, and on the *fifth* of the disease, she died. Previous to death the tongue was observed to be browner, the moisture mentioned above, greater, and a peculiar fœtor, which had been remarked in a slight degree two or three days previous, in the evacuations, was much more apparent. Permission was not obtained to inspect the body, and we have to regret the want of light which dissection might have thrown upon the disease.

Case 2d. Mrs. A. G. aged about twenty-five, was sick with her fourth child in March, 1813. She had suffered extremely from a cough, of some months standing, and from abscess of the antrum highmorianum, an operation for which she had submitted to a short time before she fell pregnant. Her cough had been attended with severe pain in the side, for which blisters, bleeding, and antimonial preparations had been used, with but little effect. This was not one of those affections which at times follow in the train of diseases incident to the pregnant state. It commenced previous to that state, and had been aggravated by exposures, and palliated by remedies, as the whim or necessities of the patient dictated. Two or three months previous to parturition, in a violent paroxysm of coughing, she thought something had been ruptured in the side, and according to her account, a distinct sound accompanied the supposed rupture. She was bled, vesicated, the cough was quieted, and her general health at the same time improving, she was satisfied her alarms were unfounded. The cough, however, continued during parturition, which last was attended with unusual pain, and was not accomplished by any means as soon as usual. The bowels had been relaxed previous to delivery, for some days, and this continued after delivery. The lochia were more profuse than was common with her, and in the evening of the day of her confinement she nursed her child. She continued well till the beginning of the *fourth* day from her illness. She had, of her own accord, taken a dose of tinct. opii. to quell her cough; on the second day, I ordered her in place of this, the tinct. hyosciamus, which I have found to answer better in similar cases. By neither of these means, however, were the usual discharge from the bowels nor the lochia at all checked, when I found her complaining on the fifth day from her confinement, the second of her disease, of pain in the head, heat, flushings, severe pain of the abdomen, and excessive alvine discharges. The pulse was increased to one hundred and forty beats in the minute, and an unusual weakness complained of. The pain of the abdomen was excruciating during the evacuations, and swelling of that part had taken place. I learnt from her nurse that the pain and discharges had appeared the day before; that the first twelve had resembled exactly the usual evacuations of a cathartic medicine; those that followed were compared to the albuminous portion of an egg, and the subsequent ones had exactly resembled those which were now observed; these were almost water with small masses of mucous matter floating in it. I recommended and urged the necessity of a blister to the abdomen immediately, which was as strongly opposed by the patient, and though she was conscious she must sink under the violence of the diarrhæa, if not moderated, I could only prevail on her to use such internal remedies as might produce that effect. Opiates with astringents were exhibited, but with no effect, and on the third day of the disease all the symptoms were aggravated; the pulse was increased to one hundred and sixty beats in the minute; the face and upper extremities bathed in a cold greasy sweat; the head suffered severe pain; the lochia were checked, and the alvine defluxions so numerous as not to be counted; abdomen swollen and painful to an excruciating degree, and the patient laying on her back unable to move; a consultation was desired, and Dr. Warren sen. very obligingly attended. I had sent for a large vesicating plaister previous to his arrival, and he agreed with me in the propriety and absolute necessity of its immediate application. It was farther agreed to vomit the patient, and after the operation to continue the use of the opiates, one grain of solid opium, combined with one half grain of ipecacuanha in pills, one of which was to be given every hour till the pain and alvine defluxions were checked. But little, however, was gained. The patient, though watchful for the two preceding nights, got no refreshing sleep on this; and I exhibited a second emetic on the fourth. Dr. Warren again saw her with me at noon, and it was agreed that some tonic stimulant should be added to the opiate. She passed a very uncomfortable night, but towards morning experienced some diminution of the symptoms. On the *fifth*, a severe itching of the face and breast came on. The pain and discharges were very much lessened, and her pulse, which had fluctuated from the commencement of the disease, between one hundred and forty, and one hundred and sixty beats in the minute, were found to have come down to ninety-three, were fuller and softer. The pain in the head was lessened, and a pleasant moisture had taken the place of the sweat above mentioned. The vesicated part of the abdomen, was the only place where pain was complained of, and the lochia had reappeared. The opium was now gradually diminished in quantity, and soon laid aside altogether, and the patient in a fortnight from this time was as well as puerperal women in general are, who have not suffered the degree of disease just described. Notes of the quantity of various preparations of opium, with the modes of its exhibition, and its combinations with other articles, were not kept. It was, however, very great. It was used combined with chalk julep as an enema. It was also given in form of tincture alone, or combined with tinct. cort. perm, and cinnamon, and in pills in the solid form. Port wine was craved by the patient, and towards the decline of the disease, and during her convalescence, she was allowed it in such quantities as were agreeable to her.

There must have been observed a very striking coincidence in the leading symptoms of the above cases. These were in both, excessive alvine defluxions, an extremely morbid secretion of the vessels of the skin, a remarkable rapid and small pulse, and vast prostration of strength.

It has been distinctly stated, that the pain generally so excruciating, and mentioned by some authors, as a symptom so strongly pathognononic of genuine puerperal fever, was not present in the case of Mrs. M. It was, however, very remarkable in Mrs. G. Nor was the pain in the head by any means so severe in the former as in the latter. The pulse, however, was in both cases equally remarkable in frequency and smallness. At the close of the disease in the fatal case, it was contracted to a thread; the natural consequence of the immense evacuations from the system. In Mrs. G. this state of the pulse existing to a degree, and greater at one time than another, according as the discharges were greater or less, indicated her extreme danger. With regard to the treatment adopted in these cases, it may be remarked, that in the last case, there was the best evidence from the nature and successive changes in the evacuations, that the alimentary canal had been thoroughly cleansed, and the favourable circumstances which occurred were simultaneous, with the alterations produced in the evacuation. The highly morbid action of the skin was very suddenly changed; and on the fifth day, the critical one of authors who think the disease terminates by crisis, whether fatal or salutary,* a very peculiar action on the skin, in the case of Mrs. G. took place. Whether the severe itching was the consequence of some salutary efforts of nature alone, or a specific action of opium, there may not be data enough to decide. But it is an undeniable fact, that the gradual introduction of a large quantity of that article into the system, has produced this and other effects on the skin, and these, in some cases, at the moment when its good effects were becoming apparent.

To have been influenced by the distracting mass of testimony afforded by books on this puerperal disease, a very different practice might have been adopted, lest the lives of the patients had been jeopardized, by checking what has been called a salutary effort of nature to resolve abdominal inflammation. But in the one case the disease followed literal evacuation by a purgative, and the patient sunk; in the other, no such evacuation was indicated, for the *natural* lax state of the bowels continued to the very access of the disease, and became one of its leading symptoms.

It was only moderated by a very liberal use of medicines, whose direct tendency is to diminish all the secretions, and a most rapid return of health, supervened on the regulation of these formerly diseased functions. Mr. White, of Manchester, has given us a case of "puerperal fever with diarrhæa." With this exception, scarce an author has been met with, who has given cases, in which this was a leading and very pressing symptom.

---

* Dr. Gordon's Treatise on the Epidemic Puerperal Fever of Aberdeen, p. 74.

The exciting cause of the disease in Mr. White's patient, (according to his opinion) did not exist in either of the cases above detailed, viz. the close, bad air of the apartment in which the patient was confined.

Authors who have written expressly on this disease, have most of them disagreed as to its nature, its seat, its causes, prognosis and its cure. Burserius has given a pretty full account of these various opinions, and in the system of midwifery of Mr. Burns of Glasgow may be found in a note to the chapter on the same, a condensed statement of these various and discordant notions. Unquestionably, few diseases have been more fatal than this, under every kind of treatment.

This paper was written solely with a view of stating two cases, whose leading symptoms were of a nature evidently tending to a fatal exhaustion of the living powers, and still bearing a striking resemblance to what has been urged by almost all authors on the subject, as either an effort of nature, and highly dangerous to be interfered with, or on the artificial production of which, a salutary termination almost exclusively depended. On this account much pains have been taken, many old and new books have been examined, to ascertain how far a diarrhæa and its consequences, (such, let it be particularly attended to, as existed in the preceding cases) was to be *encouraged*, *moderated* or *checked*. Riverius, an author quoted by Burserius, was found to have made this remark on the subject, in the last paragraph but one of his chapter "De Morbis acutis puerperarum." "In generè autem hoc perpetuò observandum; quò longius puerpera distat à die partus, èo tutius medicamentum purgans posse administrari: et contra. Nam experientia docuit, mulieres purgamentorum suppressione laborantes, si post septimum, vel nonum diem alvi fluxu corripiantur, ut plurimum liberari. *Si vero primis diebus, videlicel secundo, tertio, vel quarto diarrhœa accideril, ul plurimum interire.*"* The notions of Riverius and his cotemporaries, and of many later writers, "de purgamentorum suppressione," viz. that it acts immediately as a cause of the disease under consideration, and of many others peculiar to the puerperal state, have not been established by the best modern writers on the subject; for though a suppression of the lochia may, and does at times precede, and frequently attends the disease in question, still it has been considered a circumstance of accidental occurrence rather than as necessary to the production or continuance of it. For in many undoubted cases of genuine puerperal fever, not the least derangement has taken place in this uterine function. The practical remark, therefore, respecting the accession of the diarrhæa is that to which particular attention is requested.

---

* Riverii opera, Med. Universa, p. 487.

Willis, in his chapter on "fevers of women in child-bed," gives it as his opinion that women in this condition are obnoxious to a putrid, or rather malignant fever, excited by the contagion of a pestilential air. He found that patients were more likely to recover, the later the disease occurred from delivery. He did not observe that in his practice it went off by crisis, still the disease was at its heighth on the fourth day. He dwells particularly on the "vehement and quick pulse," and of "wonderful distensions about the viscera." Sweats were not observed to be favourable, nor *diarrhœa* or the reappearance of the lochia, unless they relieved the symptoms. At page 637 of his translated works, he again observes, that we are not to expect a crisis, "nor does the disease admit the use of a cathartic remedy." "That if the belly be costive, let it be gently loosened by the violet suppository, or an emollient clyster. *We must beware of a too strong irritation, because it is known that in child bed the strength is suddenly cast down with a swooning, by copious purging, even as in a malignant fever.*" He concludes by observing, that although in some very desperate cases, he gained a little by the use of cordial medicines, still when the use of them was for a while remitted, "the diseased fell headlong into death, with a weak pulse, and a looseness forthwith ensuing."*

---

* Dr. Hulme, in his work has the following remark, "A diarrhæa coming on at the beginning, if followed by a slower pulse, prognosticates safety. But if after evacuations by stool, whether procured by nature or

It is unnecessary to add to the length of this paper by other parrallel quotations. The truth indeed is, that with the exception of Mr. White's case, above alluded to, the occurrence of diarrhæa, such as has been described in the above cases, has been hardly mentioned by authors on puerperal fever. Mr. Burns, indeed remarks, that "diarrhæa should not be allowed to continue long and is always to be restrained, unless it *evidently gives* relief and the feeces be very fœted." This work, however, is so common that a bare reference to it is sufficient.

The diversity of opinion which has prevailed with regard to the nature, &c. of the puerperal fever, has been alluded to. The facts which have come under the notice of the author, have not been numerous enough to give a very firm foundation to a new theory, had one been suggested by them. They have afforded additional support to the opinion he has received from various sources, and made it more probable to his own mind, that the disease primarily is purely inflammatory, that this inflammation may, and does differ in its nature, and may be seated exclusively in either of the textures of which the intestinal canal is composed; or it may seize the whole of them. It may for example, seize the peritoneal coat, exciting excruciating pain, constipation, frequent and hard pulse, and unless removed by such remedies as are indicated, it shall be resolved by large secretions of pus, into the cavity of the abdomen, and this shall destroy the patient, or gangrene may cut her off, before this takes place. It may seize the mucous coat; first excite the canal to the evacuation of its contents, then to an increased secretion of mucous, and thence increasing, waste the patient by diarrhæa, constituted by discharges similar to those which occurred in the case of Mrs. G. unless remedies check it.

Further, this inflammation may attack the omentum or ovaria, constituting the most dangerous varieties of the disease. The constitutional and local treatment proper in the first, must be actively employed in this, and the diseased actions,

art, the pulse should not become slower, it is to be reckoned as one of the most dangerous symptoms."—*Hulme on the Puerperal Fever, p.* 31 *and* 32.

into which other organs may fall from sympathy, will be occurrences demanding additional regard. There is not room enough in a work of this kind to speculate on the *nature* of this inflammation, and to inquire if this disease be contagious or not, and the questions are not involved in the subject of this paper. It was deemed proper to advert to the varieties of the disease, for, as it has been universally inculcated by all authors, the diarrhæa which affords relief should never be checked; for it is in truth, in most cases, an effort of nature to cure the disease; nay, if there be any evidence of its being the consequence of irritating causes in the intestinal canal, they should be promptly removed by cathartic medicines.

When purgatives are indicated, and they most generally are, they should be resorted to as a substitute for what nature is inadequate to effect, in consequence of the violence of the disease. Always, however, bearing in mind that excessive alvine defluxions are among the dangerous symptoms of this disease, and especially when they do not afford relief; and that when they are uselessly, nay, hurtfully excessive, it is our duty, because it is indicated, to check them.

SOME ACCOUNT OF THE DISEASE,

WHICH WAS EPIDEMIC IN SOME PARTS OF NEW-YORK AND NEW-ENGLAND, IN THE WINTER OF 1812—13.

[For the New-England Journal of Medicine and Surgery.]

"AMERICA," say the learned editors of the London Medical Review, "seems to be the country of epidemics, as much as it is of swamps, woods, and savannahs." England, we might say in return, seems to be the country of scrophula and consumption, as much as it is of fogs and vapours. Such observations are at least injudicious, not to say incorrect. America has never suffered in proportion, half so much, from the severity of epidemic diseases as England. The yellow fever has been confined to two or three large cities, and the spotted fever to districts of country, not very thickly populated; and the mortality from these disorders, compared to the whole population of the country, has been of trifling importance. We have never yet seen thousands falling by the plague, or the sweating sickness. The diseases of America, are fewer in number and more acute than those of Europe. They are principally fevers and inflammations. We see but little of gout and dropsy, and scrophula, and the long train of chronic complaints, which vex the inhabitants and enrich the physicians of the older countries. The number of deaths, compared to the whole population, is probably smaller than that of any European country. We find for example, on comparing the proportion of deaths to the whole population, in the *town* of Boston, with the proportion of deaths to the whole population of France, according to the statistical accounts of Peuchet; that while in the latter, there dies annually one person in thirty, in the former, there is about one only in forty-eight. This exhibits a great difference in favour of the salubrity of our climate, especially when we observe, that the comparison is between a populous, closely settled town and a whole territory, comprehending both town and country, a country acknowledged to be the most healthy in Europe. In truth, it is difficult to explain the rapid increase of population in the northern section of the United States, except it be admitted to be an uncommonly healthy climate. In the New England States we have perhaps as few foreigners as any nation in Europe. There are no emigrations to our already populous country; but on the contrary, there is a constant emigration to the interior of New York, Pennsylvania, and the North West territory, besides the current which commerce pours out over the whole face of the earth. Notwithstanding this loss, it appears, that from the year 1800 to 1810, the population of Massachusetts and Maine, which compose one state, was increased from 574,564 to 700,745. While the states into which our emigrations took place have increased in a greater proportion.—What the writer means by swamps and savannahs we do not exactly know, unless he believes the *prairies* of the Missisippi to extend to the Atlantic; or supposes the great lakes to be stagnant pools. But for the information of all Europeans, who have not studied the geography of America, we beg leave to make known, that except the sea coast of the southern states, which consists of alluvial soil, the country is rather hilly; and that the New England states, to which the remarks alluded to, most specially apply, form one of the most uneven, rocky, mountainous countries on the face of the globe. The illiberality and want of information displayed by the author, quoted above, have elicited these remarks; but we wish to be understood as meaning no disrespect to English writers generally. It is from them we receive a considerable part of what we know, and we, of course, ought to pay them the tribute of our gratitude and veneration. There are on both sides of the water, men of narrow and illiberal minds, who are provoked by prejudice and jealousy to slander those, they ought to respect and love, as descendants from the same ancestors.

We have been imperceptibly drawn away from the subject of this paper, the epidemic that has appeared in New York and New England, during the last winter. It is proposed to give a concise account of the symptoms of this disorder, its treatment, and the morbid appearances after death.

This complaint made its first appearance in the autumn of 1812, among the soldiers at Greenbush, and since that time, its ravages have been remarkable in the army of the United States, in various places; at Plattsburgh, Burlington, Sacket's harbour, Boston, Charlestown, &c. Its severity in the army is to be attributed to the sudden change of the mode of living of the newly enlisted soldiers, to intemperance, and to exposure to the weather. During the winter, it appeared among the citizens in Vermont, and the upper part of New York, and at the close of winter in some of the interior towns of Massachusetts, and sporadically in various parts of the United States. Its fatality among the soldiers, and in a few places among the citizens, was considerable; but so far as can be ascertained, it has not, in most places, increased the number of deaths beyond the usual proportion. The victims of this disease in Boston may have been between twenty and thirty in number, of which about half were soldiers. It is impossible to estimate the numbers affected with various forms of the complaint in the same place. They could not have been less than four or five hundred.

In the most characteristic cases, the disease commences with an acute pain in the side or breast, stricture across the thorax and difficulty of breathing, short distressing cough, chills, great prostration of strength, pulse a little accelerated, rather full, sometimes hard, but easily arrested by pressure. The tongue soon becomes yellow, then brown and dark coloured, the countenance peculiarly livid, and the patient slightly delirious. Afterwards the cough increases, expectoration sometimes occurs, and the patient gets relieved on the third, fourth, fifth, or sixth day in some instances, while in others, the disease runs on irregularly for some days longer. The heat of the body is greater than usual, but never approaches that of common inflammations. The skin is often moist from the beginning, both in mild and very bad cases. In many instances the patient is first attacked with pain in the head, back and limbs, severe chills and very depressed pulse. In the worst cases, the pain in the side or head is dreadful, there is no cough, the stricture in the chest is agonizing, the patient becomes delirious, and dies in two or three days. Sometimes the complaint resembles a common pleurisy, except that the pulse is not so hard, the cough nor the heat so great, nor the progress so regular. A young officer, living in barracks, where a number of soldiers had died very suddenly of the disorder, having been exposed to cold and severe exertion, was attacked with pain in the left side and sickness at the stomach, at midnight. In the morning, on attempting to get out of bed he fell on the floor. Being removed to a more comfortable situation, he was bled six ounces; and thus relieved from the pain in the side. The blood had a remarkable inflammatory buff; yet the pulse was not above eighty, full and very compressible. After this, an emetic was administered, which produced an evacuation of a small quantity of very dark coloured mucus. His restlessness increased during the day, and at night the pain returned, for which a blister was applied to the side. The next morning, his tongue, at first pale, was very brown and afterward became dry and dark coloured. He had a slight cough, a stricture over the thorax, pulse, as at first, full yet compressible, pain in the side severe and distressing, excessive restlessless and a degree of delirium. Six ounces of blood were taken, which relieved the pain in the side. He had small doses of calomel and opium every two or three hours; and no evacuation from the bowels having occurred since the invasion of disease, a cathartic was ordered at noon. This did not operate till the following morning. On the third day the pain was not heard of; the restlessness abated, and on the fourth all the symptoms were mitigated without any remarkable evacuation. Calomel and opium were continued a day or two longer. The patient convalesced slowly at first; but got out of the house in a fortnight from his attack, and has since joined the army.

When the heart was the principal seat of disease, which happened sometimes, an intense pain struck the region of that organ, together with great palpitations, irregularity, depression, and annihilation of the pulse, syncope and cold sweats; but in some cases, the pulse was very rapid and not depressed. When the heart and lungs were affected together, there was a mixture of symptoms, though the symptoms of disease in one organ commonly predominated. Very frequently the abdominal region seemed to be the seat of disease. Then there was a pain and stricture across that part, attended sometimes with diarrhœa, and oftener with costiveness. Sometimes the head was most violently affected. The patient, seized with an intense pain in that part, soon became delirious, and died. This rarely occurred in our part of the country; but we have frequently witnessed cases of acute pain in one eye. These different appearances were accompanied with a peculiarity of pulse, such as before indicated, an irregular increase of heat, and a moist skin. They usually yielded to medical treatment with sufficient facility, except those remarkable cases of the head and heart. All these are to be considered as variations from the common appearance of the complaint.

Some physicians have been so fortunate as to be able to distinguish various stages of the disorder, and to suppose they could determine its critical and non-critical days. We must confess that we have distinguished nothing but want of uniformity and regularity, and an utter defiance of the laws, which govern other diseases. Some cases were of the duration of a few hours, others of weeks; some were very slight, others very severe; some were attended with considerable heat and elevation of the pulse, many more were remarkable for a want of disturbance in the circulation proportionate to the other symptoms; some had an attendant cough, others, even where the side was excruciatingly painful, had no cough; some were attended with expectoration, most were without it, in a considerable degree. In fine, such was the discordance in the duration and symptoms of the cases of this complaint, that many could hardly be ranked under it, for any better reason, than that they differed from all other diseases. If we were called on to fix on any one external symptom as most characteristic of the complaint, it would be the low state of the circulation, compared to its exaltation in most other diseases, with equally violent symptoms.

In order to prevent any misconception, it is proper to state, that the remarks, made above, are drawn from a careful observation of a few severe cases, and a great number of slight ones in the town of Boston.

The cause which *disposes* to this disease exists in the atmosphere.—The *exciting causes* are, exposure to cold, and moisture, and fatigue, especially after excesses and debauchery of any kind.—So many extraordinary things have been thrown out as to the *proximate cause*, that we are unwilling to run the risk of incurring ridicule, by adding to the number. It seems necessary, however, to direct our attention to two or three remarkable circumstances, which may serve as a foundation for the conjectures of the ingenious. 1st. The part, or texture primarily and mostly affected in this disease, is the *serous membrane.* When the thorax is attacked, the pleura, especially of the lungs, is diseased, or in certain cases, the pericardium; when the abdomen, the peritoneum is deranged; and in the head, it is the tunica arachnoides. After the complaint has continued some time, the substance of the lungs gets disordered and we see it swelled, hardened, and full of blood; and sometimes we have observed a redness of the mucous membrane of the bronchiæ. But these seem to be secondary derangements, for they are not observed in any organ where the serous membrane is not diseased, while the latter is often greatly disordered without any change in the organ it invests. In no instance has the substance of the brain been seen diseased, even when its membrane was most considerably affected, nor any of the abdominal viscera, when the peritoneum was diseased. The heart has been thought to be swelled in one or two instances, but this is an appearance, difficult to judge of satisfactorily. The morbid appearances, besides those of the serous membrane, are therefore confined to the lungs. In that organ, the hardness and redness of its substance has been observed, in some instances to be confined to small portions connected with inflamed spots, in the pleura, and in others, where the membrane was uniformly affected, the swelling existed principally near the surface of the organ, from which we would infer that the inflammation affected the pleura first, and extended from it to the lungs. 2d. The livid colour, the disposition to gangrene and sloughing, and the low state of the power of the heart, distinguish this inflammation of the serous membrane, from common inflammation. It seems to be an inflammation peculiar to this disease.*

These appearances serve to identify the disease with what was called petechial fever, in 1810. The apparent differences arise from the head having been most affected in the epidemic of 1810, and the lungs in that of the present season. In the former, however, the lungs were sometimes the principal seat of disease; as may be seen exemplified in case 11th, in the Report of the Massachusetts Medical Society: the morbid appearances of which, precisely resembled those lately observed. While, in the course of the recent epidemic, various instances of morbid appearances in the head have been witnessed; and the symptoms in many of the most violent cases bear the closest resemblance to those of the disease of 1810. In both, the patients have been struck down suddenly as by lightning; in both, the head was first affected, when the disease was very violent; in both, the circulation was free from a disturbance proportionate to the other symptoms; the symptoms of different cases were equally variable from each other, and the progress in the same case equally irregular; the texture of organ affected was the same, and often the organ itself was the same, and the appearance of inflammation peculiar, and alike in both.—The manner in which the two disorders are affected by remedies is certainly not similar. The epidemic of 1810 would not bear evacuations in any proportion of cases to that of 1813. Evacuations of some kind were always necessary and beneficial in the latter; but in the former, all evacuations were sometimes injurious, and always required to be very sparingly and cautiously employed. The dissimilarity in this respect, does not, however, show the two diseases to be of different character: as many, perhaps most epidemics, vary as much as these in the manner in which they are influenced by medicine. Cynanche maligna bears an inflammatory character in some seasons; but in others, a putrid one: it sometimes requires evacuations, which at others are deleterious. In the symptom which gave name to the disease of 1810, the petechial eruption, this disease is entirely deficient. Some persons may be disposed to consider this as a very important difference, which ought to form a line of distinction between the two complaints; but those who saw much of the epidemic of 1810, are aware that the number of cases which exhibit genuine petechiæ is extremely small, and that this very interesting and formidable appearance was in most places so rare, as to be considered an object of curiosity. Its employment to designate the disease must, therefore, be considered very unfortunate.

---

* See report on the petechial fever, page 160.

The epidemic, of which we speak, is not contagious.

No specific medicine or mode of practice has been found appropriate to the cure of this disorder. Great contentions have existed as to the utility of bleeding, on the one side, and the use of stimulants on the other; but the truth is, that the character of the disease is so infinitely various, that the treatment, to be successful, must be equally varied, and adapted, with cautious discrimination, to the existing state of symptoms. When the violence of local pain indicates the certainty of local disease, if the pulse is not too much depressed, bleeding may be considered the first and best remedy. It must be moderate, and cannot be repeated, in true cases of the epidemic, more than once or twice.* In the most violent cases, bleeding, in the first stage, would prove fatal, and in many others, the pulse is too weak to justify it. It may be laid down as a general rule that when the pulse will bear it, this remedy will be highly beneficial. Should the patient be depressed by it, moderate cordials may be employed temporarily. In no other circumstances has the use of cordials or stimulants been indicated during the present season, if we except some of those violent cases which proved fatal in a few hours. After bleeding, emetics of ipecacuanha with calomel will be found useful, provided the nausea of the stomach indicates them. When employed under that circumstance, there has usually been an evacuation of very thick, green coloured mucus; but when this remedy was not called for, a cathartic medicine has been preferred, and has usually produced discharges of the same green-coloured mucus of thinner consistence, and almost always with a degree of relief. No one perhaps will hesitate, in a disease commonly attended with such remarkable local affection, to employ blistering speedily, extensively and repeatedly. Its effects are admirable. Small doses of calomel with opium and the tartrite of antimony, squills and seneka, are the best medicines for promoting expectoration. The gums have rarely become decidedly affected by calomel, so that the disorder cannot be set down as one of those readily cured by the preparations of quicksilver. As soon as the violence of the disease is subdued, tonics should be employed, with due caution. The most suitable seems to be cascarilla employed in an infusion. The want of the critical expectoration which takes place in common pleurisy, is perhaps the cause of a dry and uncomfortable cough, remaining after the bad symptoms have subsided, from the irritation produced by vessels not yet emptied of the blood they had received. In this state of things, opium is the best medicine; in other stages of the complaint, given in small doses, it has appeared to be at least a safe, and sometimes a useful remedy.

---

* The material difference of opinion on this point will appear from some cases reported in another part of this Journal.

The morbid appearances after death, need not be generally stated, as the two following cases will sufficiently exemplify them. The first of these cases affording a specimen of the most common and least remarkable appearances, and the second, of the most extraordinary changes.* For other observations of the same nature, we may refer to the head of morbid anatomy, in the present and last number of this Journal.

The first was a soldier of a robust frame and ample chest, who, as well as his comrades, was in the habit of using ardent spirits very freely, and was lodged in a dirty and uncomfortable situation. He was suddenly attacked with pain in the right side, a severe stricture across the chest and difficult respiration, with very slight cough. The pulse rather more frequent than natural and full, but very compressible. Heat of the skin above the natural state. He was bled, with temporary relief from pain; but the bleeding was not repeated, nor did he have other medicine than calomel and opium. On the second day his countenance was very livid and his brain disturbed. On the third, the respiration was very laborious, pulse quicker and smaller, there was great restlessness, and complete delirium. On the fourth, he died.

---

* These dissections were made by Dr. J. C. Warren.

Although I did not attend this patient, an opportunity was afforded me of examining the body very carefully. In the brain there was no very remarkable change of structure. The superficial veins were rather full; the little vessels of the medullary substance charged with blood; the plexus choroides was quite swelled, and contained a little water, and its interposed membrane was very remarkably tough. When the thorax was opened, the heart and left lung were seen to be of a tolerably healthy appearance; but the right lung was very livid in every part, especially on the anterior surface. Its pleura was completely discoloured by blood in the small vessels, which rendered it black, in some parts, and the appearance of the pleura lining the ribs was similar. Over the surface of the lung was spread a thin layer of lymph, which entering between the lobes glued them together. The substance of the lung was hard, for some little distance from the surface, but the central part softer. This organ was very generally of a dark colour within. The abdominal viscera exhibited no vestige of disease. The stomach contained a little watery fluid, and its mucous coat was reddened. The intestinal canal appeared quite healthy. The liver was very large, and rather harder than common. The gall bladder large, full of bile of a good appearance, and the ducts quite pervious.

The second patient was a citizen, whom I did not visit till after he had been ill a few days, when he was evidently beyond the reach of medical aid. His story was, that he was first attacked with chills, pain in the forehead and side; for which he employed liberal potations of hot brandy and water, or gin and water. Afterwards he found that his bowels became painful, and when I saw him, it was difficult for him to determine in what part he suffered most severely; though he seemed disposed to consider the abdominal pains to be most distressing. The region of the abdomen was extremely tumid and quite tender. The pulse was depressed, so that at times it could scarcely be perceived. The extremities were cold and damp. There was a stricture, like a cord, over the breast, a slight cough and very difficult respiration. The tongue was black and dry. The eyes languid and sunk. In this state he continued eight days longer. His distress being occasionally relieved by opium. The functions of the brain were not greatly impaired till three days before death, when he became insensible.

The body was examined the day after death. The brain was very firm. Its superficial veins were shrunk, but exhibited satisfactory marks of having been very much distended. The tunica arachnoides had many spots of coagulated lymph, by which the hemispheres were more closely connected than common. Some water was found in the ventricles. The heart was in a sound state. The left lung much discoloured and partially hardened. The right lung was discovered lying in the upper part of its cavity, covered by yellow coagulated lymph, its substance remaining entire. The lower part of the same cavity was occupied by a kind of cyst formed by a recent concretion of lymph, about a quarter of an inch thick, on all sides, soft and readily torn; and enclosing, in its cavity, more than three quarts of thick and discoloured serum. The anterior surface of the abdominal organs, the liver, spleen, stomach and intestines was covered with a most extraordinarily thick coat of very yellow lymph, which cemented all these parts into one mass and united them to the anterior parietes of the abdomen. This lymph was, in many places, an inch thick, and might be separated in large masses. The whole peritoneal surface of the organs and of the parietes of the abdomen, was in a greater or less degree covered with lymph. By the union of the different organs the appearance of these parts was rendered as confused, as is possible to conceive. In various places the adhering parts formed cysts of different sizes, which were usually filled with serum containing a portion of semi-purulent lymph. The peritoneum and pleura were generally very tender, and in some parts had the aspect of approaching gangrene.

CASES OF A DISEASE

WHICH HAS LATELY PREVAILED IN SOME PARTS OF THE NORTHERN STATES.

CASE BY J. JACKSON, M. D.

Feb. 22, 1813. I was called to visit a truckman who was said to have the cramp in his stomach. I found him delirious and in violent distress. His face was very highly coloured, almost livid, his skin mottled in some parts, his extremities cold, pulse 74, small and frequent. Some of the time he was lying curled up on his side, and some of the time he was on his feet and endeavouring to get away, from which he was prevented with difficulty by two stout men. He said that he had been cruelly beaten in the stomach by some ruffians, and threatened revenge. I placed my hand lightly on the epigastric region and he complained bitterly of the pain, saying, it was there he had been beaten. He had some slight convulsive affections over the whole body while I sat by him, and the attendants stated that he had had several similar affections, since his seizure.

From the attendants I learnt that he had eaten his dinner as usual, and left the house apparently in perfect health. He went to his stable, and just as he reached the door, he complained of violent distress at the stomach, which those about him supposed to be the cramp. This distress was so great as that he was unable to stand up; and immediately he became delirious. He was carried home, where he had been two hours when I visited him. During this time he had appeared constantly to be in extreme agony in the abdomen, and had vomited three times so as to throw off his dinner.

While I was examining and making inquiries into the case, about twenty minutes after first feeling his pulse, I found them very greatly altered. They were not increased in frequency, but were dilated and stronger, and had become hard.

I resolved to perform venesection; but this was difficult on account of the constant agitation and delirium of the patient. He submitted, with reluctance, partly to force and partly to persuasion. The blood spouted freely from a large orifice, but his restlessness caused the bleeding to be irregular and slow. The difficulty diminished remarkably during the flow of blood. After four or five ounces were taken, he began to grow more calm; after ten or twelve ounces his face became more pale; before he had lost sixteen ounces he fell asleep, and while the blood was still flowing in a small stream he awoke perfectly rational. After the loss of eighteen ounces of blood the pulse were 66, but not diminished in strength nor in fulness.

The patient now confirmed the account which I had received of his seizure. He said that the attack of pain in the epigastric region was extremely sudden and severe, that it continued to be very distressing with great soreness, that it was increased by the least motion and by an attempt to gape or to make a full inspiration. His head and limbs were also very painful.

In the remaining history of this case I need not be minute, as the circumstances already stated show its character. Twelve more ounces of blood were taken after three hours, and now as before a thick inflammatory crust was formed. He was blistered over the epigastrium, and the next day he was freely purged. He took submuriate of quicksilver with tartrite of antimony and opium. On the second day the disease was fast subsiding. On the third day he walked about the room, and on both these days he coughed and expectorated thick mucus with ease. On the fourth day he went abroad.

CASES BY WM. GAMAGE, JUN. M. D.

Case 1st. In the evening of Jan. 27th, 1813, I saw Mrs. G. She had considerable difficulty of breathing, and complained of distress over the whole chest, without adverting to any one part as being more painful than another; but when asked, she said, it was most acute in the right side. She had pain in her head, back and limbs; skin hot, but moist; tongue coated white;

pulse feeble, quick and sharp. The disease commenced suddenly with a severe chill, and she had been ill about eighteen hours. I directed a cathartic, and after its operation, a pill consisting of two grains of calomel one of opium and one of one quarter of a grain of tartrite of antimony.

In the morning her symptoms were not mitigated, though the medicines had operated, as expected. I determined to bleed her, and took away, by a large orifice, sixteen ounces of blood; her pulse immediately become fuller and soft. The blood on standing exhibited a pretty thick buff. The pain was much relieved, except in the right side, where it was felt more acutely. A blister was applied to this side, and the pill, the opium being diminished to a quarter of a grain, given every eight hours; mild drinks indulged in freely.

29th. The blister had produced its effect, but the pain in the head and side and some difficulty of breathing still remained; she had a frequent and hard cough; pulse quick and hard. I again opened a vein and took twelve ounces of blood, and the pulse became soft. After this bleeding the disease seemed to be abating, till the evening of the 31st, when from some imprudence the pain in the side, distress, and difficulty of breathing returned with great violence; pulse small, quick and hard. I immediately bled her to the amount of sixteen ounces, and relief soon followed this evacuation. The next day the mouth was sensibly affected by the calomel; but it was some time before her cure was complete. She was young, and had rather a delicate constitution.

Case 2d. Feb. 12th, 1813. I was called towards evening to Mr. E. B. a stout and hard working man of about thirty five. He was suffering with very difficult respiration, violent pain in the right side, and distress across the lower part of the thorax; pain in the head, back and limbs: hot but moist skin; tongue coated white; countenance flushed and distressed; pulse small and quick and easily lost by pressing on the artery. The disease commenced with a severe chill, and had continued about twelve hours. I immediately bled him from a large orifice to the amount of from 26 to 30 ounces. Before I had finished, he expressed his joy for the relief which it gave him, and begged me to take more. He was not in the least faint, and his pulse in a few minutes became large and full. The blood exhibited a very thick buff. A cathartic was directed, and mild drinks.

During the night the bandage on the arm, from which he was bled, got loose, and he lost by this accident, as I judged, about six or eight ounces of blood. This was followed by no disadvantage; the pain in the side was still acute, respiration difficult, and the pulse quick and hard, and seemed to demand the evacuation even more, than before the first operation; I therefore took from the same orifice, eighteen hours after the first bleeding sixteen ounces, and the pulse became slower and soft. The blood exhibited much less buff than yesterday. A blister was applied to the afflicted side, and the submuriate of quicksilver was given, as in the former case. Assisted by one or two gentle catharties, he recovered in a few days so as to take tonic medicines.

Case 3d. March, 1813. De G. a common labourer and a very robust man, had a severe ague fit, which was followed by great distress in the region of the diaphragm, and pain in the left side; skin hot, and the pulse quick and small; was relieved by one copious bleeding immediately after the attack. Assisted by a blister, cathartic and calomel, he got well in a short time.

Case 4th. March 6th. E. S. a domestic servant, after a chill was seized with violent pain in her right side, and shoulder; inability to move her right arm, and difficult respiration, pain in the head and limbs; pulse small and quick, and easily compressed; skin hot, tongue coated. I took from her in a large stream twenty ounces of blood, and she was relieved. The bandage, which was applied to the arm getting in the night above the opening in the vein, caused a considerable loss of blood; the exact amount, however, could not be ascertained. The accident was entirely in her favour. She recovered rapidly with very little medicine.

Case 5th. Mrs. C. a labouring woman, had symptoms very similar to those in the 4th case. She got well soon after one copious bleeding.

Case 6th. March 31st. M. R. intemperate in his habits, and between fifty and sixty, was seized with the most excruciating pain in the right hypochondrium, accompanied with difficult respiration. He took a large dose of senna and manna, which operated smartly, but produced not the least abatement of the pain. He became delirious; skin hot, but in a prufuse perspiration; pulse small and quick; but I bled him to the amount of twenty-four or twenty-six ounces, and the pulse became slow and full. The pain gradually subsided, and he was well in a few days.

Case 7th. In the evening of April 9th, 1813, I visited Bloke, a young man and a sailor. He was prostrate in his bed, and breathing with much difficulty; had great distress in the chest, particularly about the heart; violent pain in his head and limbs, and a total inability to move the right arm or leg. He went to bed the evening before, apparently well, and was taken in the night; he had been ill about sixteen hours, and much of the time delirious; skin hot; pulse small and quick. I determined to bleed him; and watching the pulse, I perceived, that when I had taken about a pint of blood, it became large and tense; I let it run, till I had obtained over half a pint more, and the pulse seemed soft. After this he was rational and his pains much abated. He then took an emetico-cathartic, which operated smartly, and he could move his limbs. The submuriate of quicksilver in small doses was directed; in three days it affected his mouth. He recovered without further difficulty.

Several instances of slighter affections of the lungs occurred during this period, in which bleeding was employed with happy effects. In fact, the lancet has been a very useful companion to the materia medica in most of the varieties of disease of the latter part of winter and the spring.

I had no opportunity of observing after death the morbid effects of this disease in any case, whose symptoms had previously been under my own inspection. By the politeness of friends, I have been present at three or four examinations of those, who died by this disease. The phenomena exhibited on those occasions, the hardness of some part of the lungs, their gorged state, their dark colour, approaching almost to black, the pericardium red and thickened, or covered with livid spots, and other marks of the most violent inflammation, demonstrated to me, in a manner the most positive, the necessity of copious evacuations of blood to cure this disease, notwithstanding the forbidding aspect of the pulse, which commonly attends it. I was indebted to an early opportunity of this kind for, at least, my confidence in bleeding as a principal remedy; and, so far as I have known, every case, in which this remedy had not been used freely and early in the attack, has terminated unfortunately.

AN ACCOUNT OF THE POISONOUS EFFECTS OF THE USE OF GLAZED EARTHEN VESSELS.

BY W. MEADE, ESQ.

Some time this last spring I was informed by my friend Dr. David Hunt, of Northampton, that he was consulted by a family in his neighbourhood, who were all attacked with the most alarming symptoms of colic, such as pain about the region of the navel, strong convulsive spasms in the intestines, with frequent vomiting, attended with obstinate costiveness. The family consisted of a man and his wife, and six children. The symptoms with which they were all attacked, were so similar, that it naturally induced him to suspect that the disease must have arisen from something deleterious in their food, and his suspicions led him to inquire whether they had made use of leaden vessels in cooking their victuals, or whether they had lately eaten of pickles which had been kept in an earthen ware vessel. He could find no leaden vessels in the house, and they assured him that they had not eaten pickles for a considerable time; however, it appeared on further inquiry, that they had preserved a considerable quantity of apples, early last season, in the usual manner, that it was kept in a large glazed earthen crock, and that they made use of it at meals every day; on inspecting the crock which contained these stewed apples, the glazing appeared to be much corroded, and there was sufficient indications to induce a strong suspicion that the glazing had been acted upon by the apples, and that by this means a quantity of lead had been taken into the system.

Dr. Hunt obtained some of these stewed apples for examination, informed me of the circumstance and requested my opinion on the subject. In order to ascertain whether they contained any portion of lead, I recommended him to pour some hot distilled water on them, and when cold, to decant and filter the solution; then to examine this solution with a few drops of hydro-sulphuret of lime, which I prepared for him, (and find to be a very delicate test of the presence of lead in any fluid,) and if this threw down a very dark precipitate there could be no doubt of the presence of that metal; if this should be the case, it was next necessary to evaporate the solution to a jelly, then to mix it with a little paste, place it in a crucible covered with charcoal, and apply a red heat, which would reduce into a metallic state any lead which may have been dissolved in it.

In a short time after, I was informed by Dr. Hunt that he had obtained a solution from the stewed apples, as directed above, and that on applying the test of hydro-sulphuret of lime such a precipitate was thrown down as indicated the presence of lead as strongly as if it had been a solution of saccharum saturni, he then evaporated the solution nearly to dryness, mixed it with a little flour and water, placed it in a crucible with charcoal, and after having applied sufficient heat for a short time, he obtained a button of metallic lead at the bottom of the crucible.

The result of these experiments was perfectly satisfactory; they were highly creditable to the skill and discernment of Dr. Hunt, and I have no doubt were conducted with his usual accurate chymical knowledge.

It will be thus seen that these stewed apples, which this family were in the daily use of, were strongly impregnated with the deleterious poison of lead, and no doubt could arise that the severe disease, with which the whole of this family were affected, was produced by this metal.

In this instance the disease terminated more favourably than usual, owing to the judgment with which the patients were treated by Dr. Hunt. Calomel in small doses persevered in for a considerable time, with frequent use of the warm bath, were the remedies principally relied upon. These in the course of a month restored his patients to health.

A few reflections out of this case naturally present themselves to us. The theoretical and practical chymist can easily explain how the juice of these apples could have acted upon the glazing of the vessel, which we know to be an oxyd of lead. These apples were prepared early in the autumn, they were preserved with sugar and kept in a warm place, which caused them speedily to run into the acetous fermentation, this acid easily acted upon the glazing, forming a saccharum saturni, which from its sweetness made little alteration in the taste of the preserve; however, it is to be feared that the possibility of this circumstance frequently occurring is not generally known, and that the lives of many more than are suspected, may be endangered by an incautious use of this favourite sauce. Few are ignorant of the danger arising from the use of pickles which are kept, either in glazed or copper vessels; that preserves of every kind, and particularly apples, are capable of producing the same effect, under certain circumstances, is now equally evident; and if, by pointing out the danger, I shall be fortunate enough to guard others from the fatal effects of all such preserves when injudiciously kept, my views in drawing up these observations for the numerous readers of your Journal will be sufficiently answered.

I have only to add a circumstance in some degree connected with this subject. It was intimated to me that some suspicion had arisen, that the reason why these vessels were so easily acted upon, was in consequence of their having been glazed with the galena or lead ore, obtained at the Northampton mine, instead of the red oxyd of lead or litharge, which they formerly used, till I suggested about a year ago, the advantage which would arise to the potters, from adopting the use of this lead ore instead of red lead, which was always imported from England, at great expense; while the ore which was equally efficacious, could be obtained at home, and at a comparative trifling expense. It seems an object of some importance, therefore, to remove any prejudice of this kind, as nothing can be more erroneous, than the idea that this ore is not equally safe in the process of glazing; it is what is exclusively used in England for the coarser kind of pottery, in consequence of which it has since obtained the name of potters ore.

DESCRIPTION OF CERTAIN MINERALS,

FOUND IN THE STATE OF MASSACHUSETTS.

BY JOHN FOTHERGILL WATERHOUSE, M. D.

These feeble attempts at the description of a few American minerals were excited by the review, which appeared in the last number of the Journal, of an address delivered before the Society for the Promotion of Useful Arts, by T. R. Beck, on the interesting subject of the mineralogy of our country. The idea forcibly impressed itself, that we wanted a concise history of American Minerals, thrown into a systematic form. How shall this be effected? certainly by the communication of the curious with each other through the medium of the press.

The history of a rare fossil, found perhaps in one spot only, adds little to the knowledge of the mineralogy of a new country. We would wish to know the varieties, both in form and colour, of every species, and its locality; but that is not all, its geological relations; and we earnestly desire that what is known should be concentrated. Gentle reader, look with a charitable eye upon my exertions, and correct mistakes, of which there must be many, as if they were your own.

BERYLL. Light green, yellowish and white: translucent: six-sided truncated prisms, striated longitudinally; from an half inch in diameter to four and six; from a quarter of a pound in weight to twenty. The larger masses are not regular crystals.

a. variety. Aique Marine. Light bluish green, opalescent; fracture conchoidal: same form: both varieties scratch glass and quartz. Hampshire county, Mass.

In *laying masses* of granit; between strata of micaceous shistus.

GARNITS. Garnit dodecagon, with rhomboidal facets; the edges are sometimes truncated and the facets marked by the decrements, so as beautifully to illustrate the theory of Havy. Their size is from an eighth of an inch to two inches and a half in diameter. Good quality. Immense quantities in micaceous shistus.

a. variety. *Garnit in mass,* having a fibrous or flat fibrous structure, passing, as I am certain, by imperceptible gradation into Cyanite. Some of the garnits were regular, distinct and beautiful. Some of the Cyanite was crystallized in regular rhomboidal tables, with various truncations. Some were almost white, others of a clear cerulean hue, and others of a bright Prussian blue, but one could not say with regard to most specimens whether he saw Garnit or Cyanite—with the last variety in Micaceous schistus, if it be properly so called, when at least one half of the ledge is garnit.

b. variety. Two eight-sided pyramids base to base, acuminated by four planes : facets striated diagonally, so as to show the crystalline structure according to the theory of Hauy. Common. Bedford, Mass. Falls of Schuylkill, Penn.

TOURMALINE. Black Shorl. Triangular prisms, truncated laterally, striated, terminated at both ends by a depressed three-sided pyramid.

a. variety. Haddam, Conn. Andover, Mass. and Hampshire county, Mass. in Granit. The mountains of New-Hampshire.

b. variety. Indicolite. Irregular three-sided prisms. Indigo-colour. Granit. Hampshire county.

c. variety. Tourmaline, green shorl. Usual figure ; colour, passing from light green in dank ; longitudinal striated : length from the quarter of an inch to five, and one inch in diameter. They are frequently bent and cracked transversely in the direction of the natural fracture ; though these fractures run thin plates of quartz or felspar. These beautiful crystals are imbedded in a brittle quartz and felspar (lamellar) so that a termination has not been met with, excepting among the smallest. This variety has been called Axandalite and Pistazite, but why I know not, since every crystal which I have seen was a triangular prism with more or less lateral truncations, or might be resolved into it.

d. variety. Small smokey prisms, of the usual form, resembling and perhaps passing into Cyanite.

e. variety. Reds chorl : usual form : light pink : translucent : long and slender ; but we could not discover any termination to any of them. Sometimes the red is invested by the green, which is *very rare*. This, and the transverse fissures and the figure establishes the identity of the species. The three last varieties, *c. d.* &c. occur in a contemporaneous vein, traversing a *laying mass* of granit, which is interposed between the strata of micaceous schistus.

f. variety. Beautiful brilliant light blue; sometimes light pea green—crystals, small, highly polished, diverging radiated. Granit. Hampshire county.

QUARTZ. Hexangular prisms, terminated at both ends by hexangular pyramids: from the quarter of an inch in diameter to three. Greenbush, opposite Albany. Smaller—Stafford, Conn. Terminated at one end only by a pyramid, very common. Lead mines, North river. Southampton lead mine, and Hatfield, Mass.

Dodecagon with triangular facets, or two hexangular pyramids, base to base. Bedford, Mass.

PHRENITE. Colour, white, greenish, light green and light olive green: stellated: crystallized in rhomboidal tables, one angle projecting, which is sometimes truncated; and frequently the two angles of the thin tables project, and they are also sometimes truncated. Disseminated through transitions of greenstone. Charlestown, M. Phrenite is also found in Trap, near New-Haven, Conn. Brookfield, Mass. Small quantities in Watertown, Mass.

COLLECTIONS OF MORBID ANATOMY.

No. II.

BY J. JACKSON, M.D.

Inflammation of the lungs and petechiæ in the pericardium.

Boston, Feb. 11, 1813. Dr. Bean called me to see an oysterman on the fourth day, of a pulmonic affection. His seizure was not violent, but a lividity of countenance was observed from the first. On the third day, his respiration grew very difficult and he began to sink. When I saw him he had the countenance of death, his skin was livid, cold and damp; his pulses very small, frequent and feeble, and his respiration highly distressing and attended with rattling.

He had been purged and blistered and felt temporary relief. He had frequent doses of submuriate of quicksilver until his symptoms grew worse. Dr. B. proposed venesection when he first saw the patient, but he refused to submit to this operation.

This patient died in a few hours after I saw him, and on the day following the body was examined.

The man was well made, robust and in good flesh; apparently between forty and fifty years of age. His back, shoulders and neck were livid. The thorax did not resound well on either side. The whole pleura was inflamed, and the lungs adhered in every direction without a thick coat of coagulable lymph, such as is usual. In some cases, however, lumps of this lymph were found, and in one large patch it approached on its surface to the character of pus. The adhesion was not very strong.

On the left side the lungs were more firm than usual and did not crepitate when handled, though not hard; and when an incision was made into them, the blood was discharged very freely, and frothy serum from the air passages.

On the right side, the two inferior lobules were nearly healthy, except that the blood vessels were unusually full. The superior lobule was very different. This was quite carnified, being much like the liver in its appearance. There was not any difference to be discovered in its different parts. There was not in it any large cavity containing pus; but when divided, pus escaped equally from almost every part in small portions. This fluid was thought to issue from the air vessels.

In the pericardium was a remarkable appearance. There were large patches both on the heart and on the loose bag, in which there were very thickly set dark purple spots; most of them round and exactly like petechiæ; others less regular in their form and confused as if crowded together.

Inflammation of the pleura with unusual effusion of lymph.

BY J. BIGELOW, M. D.

Mr. W. C. was of a robust constitution but subject for two years to occasional cough and dyspnœa. At five o'clock in the morning, after watching the previous night, he was attacked suddenly with severe pains in the chest and left side, extending to the shoulder. I saw him at three in the afternoon, ten hours after the attack. At that time he was suffering great pain, laboured considerably in his respiration, and had a slight cough. He complained of nausea at the stomach, and had vomited twice. The pulse was tense and accelerated, the skin moist, and the countenance livid rather than flushed.

About eighteen ounces of blood were taken from the arm, and an emetic of ipecacuanha with submuriate of quicksilver administered. The emetic discharged the contents of the stomach, with a quantity of watery fluid. Three grains of the submuriate were then directed for every hour, until catharsis should be produced. A large blister was also applied to the chest over the seat of the pain.

The next morning the pain was partially relieved, the patient had had some sleep, but the difficulty of breathing was somewhat increased, and a recumbent posture was insupportable. He now took subm. hyd. gr. i. every hour with small quantities of ipecac and opium. Another blister was applied. On the third day the symptoms had not materially changed. The pain had not increased but the respiration was very laborious. Pulse frequent but not remarkably tense. Vesication was repeated and the former blisters dressed with strong mercurial ointment. On this and the following day the bowels were constipated notwithstanding he had taken subm. hyd. gr. 24 daily since the attack. On the fourth he took one ounce sulphate of soda without effect, and at night one ounce of senna in infusion. No operation took place until the day before his death, which happened at the end of five days from the commencement of the disease. During the whole course of the complaint the dyspnœa was the most urgent symptom. The pain which at first was situated pretty high in the chest, descended below the scrobiculus cordis on the two last days. The strength was so far unimpaired that the patient could sit up, and even walk the room to the last. A slight delirium occurred the night preceding his decease.

DISSECTION.

An examination of the chest was made twelve hours after death in the presence of several physicians. On opening the cavity of the thorax, we were struck with an universal whiteness presented by the surface of all the thoracic viscera. The lungs, pericardium, pleura costalis and upper surface of the diaphragm were completely covered throughout their whole extent with a thick coat of coagulating lymph. The appearance was not unlike the white coat of the tongue in certain stages of fever. In some places the adventitious covering was plaited or corrugated like the villous coat of the intestines, and might in any place be separated or peeled off from the pleura beneath.

The cavity of the pericardium was equally and uniformly coated with the same whitish membrane. The surface of this was rough with small flocculi, which floated when placed in water, and gave to the heart itself the appearance of being covered with fine whitish wool.

The substance of the lungs was free from disease, with the exception of one or two small portions which were somewhat condensed or hardened. The under side of the diaphragm had its natural appearance, and the abdominal viscera were free from disease.

Inflammation and petechiæ of the pericardium and inflammation of the pleura.

BY A. BULLARD, M. D.

W. M. aged 32 years, was seized, on the evening of the 3d of April, with the prevailing epidemic. He had no medical aid till the 5th. At that time, the pain in his left side was violent, his breathing difficult, cough frequent and distressing, pulse depressed, he sweated profusely, and the temperature of his body considerably below the healthy standard. He lost 32 ounces of blood, had half a drachm ipecacuanha with one scruple of the submuriate of mercury, and a vesicating plaister applied to the affected side. The next day, 6th, he was free from pain, except when the fits of coughing returned. He was directed to take a light diet, with mucilaginous drinks. The medicine prescribed consisted of expectorants and small doses of calomel administered at suitable intervals. On the 7th, he became delirious, and continued in that state till the 10th. During this period, nothing remarkable occurred. At 2 o'clock, A. M. on the 11th, he rose from his bed without assistance and walked about the room, and in one hour afterwards expired. At 4 P. M. of the same day his body was dissected. In the brain, the pia mater was found to be very much thickened, and united with the tunica arachnoides. Between the membranes and the cerebrum there was adhesion of the lobes of the cerebrum, and in the ventricles a small quantity of water. The plexus choroides was uncommonly pale. In the thorax, the right lung upon the upper surface, had a healthy appearance, but it was united to the pericardium and pleura costalis by strong membranous adhesions. The left lung was united by a very firm adhesion to the pericardium and diaphragm, and at the upper surface, to the pleura. It was united to the pericardium by a thick layer of coagulable lymph. The cavity contained half a pint of serous fluid. Nearly the whole external surface of the lung was covered with coagulable lymph in the form of a membrane. The lung itself was changed to a very firm substance resembling liver, the lobes of which adhered by a thick layer of coagulable lymph. The pericardium contained three ounces of transparent serous fluid in its cavity, and where it came in contact with the left lung, was much inflamed. Next to the diaphragm and left lung, the surface of the heart was covered with an effusion of lymph. The left side of the pericardium was thickened and inflamed, shewing minute specks resembling petechiæ. The heart was about the medium size and natural. In the abdomen, the liver had a healthy appearance. The stomach contained about two ounces of reddish fluid, and the internal coat exhibited a diffused redness, which was probably the result of inflammation.

BIOGRAPHICAL SKETCH OF THE LATE

J. F. D. JONES, M. D.

MEDICAL science has sustained a heavy loss in the death of Dr. JONES of Barbadoes, the author of the Experimental Treatise on the Hæmorrhage of Wounded Arteries. This gentleman was a native of the West Indies, and went to England, for his medical education, in the year 1797. He received the rudiments of anatomy and sound physiology from CLINE, COOPER and HAIGHTON, and obtained the early friendship of Dr.

FARRE, then just known, as one who would become an honour to his profession. Our countryman, the ingenious and unfortunate MR. SENTER, was a constant companion of his studies. Mr. Jones passed three years in Guy's and St. Thomas's hospitals, with an industry, which suffered not an instant to escape unprofitably, and a disposition, that attracted and rivetted the love and respect of his superiors and associates. At the end of that time, he went to Edinburgh, where his education was completed by three additional years of study, when he obtained the degree of Doctor in Medicine. During this course of study, he had given satisfactory demonstrations, that his career was not to be that of a plodding and sordid practitioner; and he had been elevated by his fellow-students to the office of President of the Royal Medical Society of Edinburgh. From this time he employed himself in those researches and experiments, which will rescue his name from oblivion. The treatise on the process employed by nature in suppressing the hæmorrhage from punctured and divided arteries, and on the use of the ligature is a chef d'œuvre of philosophical inquiry.* The author, after clearly explaining his intentions, enters into an inquiry of what had been done by those who preceded him, he thus sets out with the advantage of a full possession of their knowledge, and then he proceeds to his own laborious and repeated experiments; finally, from a careful comparison of his observations, he draws the results. This little work is so perfect, that it would be difficult to find a word that could be added or removed with advantage. It regards the most interesting object of surgical treatment; for what is more appalling to the surgeon and more dangerous to the patient, than the accidental division of a great artery. Dr. Jones hardly had time to publish his work, before he was compelled, about the year 1805, to return to Barbadoes, and soon became established in a very honourable and extensive practice, a practice unfortunately too extensive for his health. The burning suns and evening vapours of the torrid zone soon undermined his constitution, and the symptoms of an incurable disease of the lungs, struck his friends with dismay and despair. His devotion to his profession was at last so far conquered, that he consented to try the effect of a voyage to England, but before he reached that country he was called to the world of spirits.—This gentleman's private character was the most interesting, that can be imagined. A glance of his countenance explained to every one, that his soul was frank, generous and noble, that his sensibility was keen, and that he never thought of himself, when the happiness of others was in question. He was a glowing admirer of constitutional freedom, and viewing the United States, in the days of Washington, as the spot favoured by Heaven, he had a strong disposition to make it his permanent residence. His prospects are obscured and his plans of improvement are buried in the darkness of the tomb; but he has left among us a monument, which every one will venerate, and which those, who personally knew him, will never regard without a sigh, on the recollection of his untimely fate.

---

* This work has been reprinted by Mr. Dobson in this country.

OBSERVATIONS ON SOME DISEASED EYES.

BY J. C. WARREN, M. D.

The following cases will not appear novel to those, who are very extensively engaged in surgical practice; but to others, who rarely meet with disorders of the eye, and whose remote situation precludes their acquiring a knowledge of the improvements of the celebrated oculists of Europe, they may not be wholly destitute of utility.

Common Opthalmia.

A young man, who had been exposed to cold and moisture, during a journey in the night, sent for me on account a violent inflammation of the eyes. The eye-lids were covered with purulent mucus, and so much swelled, as to be separated from each other with great difficulty. It was just possible to ascertain, on inspecting the eye-ball, that its outer coat was swelled in such a way, as nearly to bury the cornea: and that the latter was completely opaque. The patient immediately had twelve ounces of blood drawn from the arm; a brisk purgative medicine was ordered, and the application of a weak solution of lead to the eye. In the afternoon, leeches were applied near the diseased part; and in the evening, the pulse remaining hard, the patient feverish, with much head ache, eight ounces of blood were drawn from the arm. The next day, the pains in the head and eye were less. He was bled eight ounces in the morning, blisters were applied behind the ears, leeches again to the eyes, and an occasional washing ordered of the eyes and forehead with warm water. He was bled again on the same evening. The two following days, he was bled morning and evening, and the swelling of the eyelids subsiding, a solution of sulphate of zinc was injected between the eyelids every hour. The inflammation subsided rapidly, so that in a week from the first application, the pupil became visible, and he finally recovered both eyes, except a slight opacity of one cornea.

When this case occurred, I had not met with the valuable work of Mr. Saunders, and did not know the extent to which he advises bleeding in these violent cases. Mr. Saunders recommends taking from sixteen to thirty-two ounces in twenty-four hours, or in short, as much as the patient can bear to lose. He considers local bleeding as not important, where the evacuation can be practiced generally.

Speck on the Cornea.

A lady was attacked with a moderate inflammation of the left eye, for which she did not think it necessary to consult any one, until it had lasted three or four days. On examining the eye, I found the redness of the conjunctiva not great; but, in the centre of the cornea, an opaque spot, obscuring the whole pupil, into which ran a cord of blood vessels from the conjunctiva. I immediately passed a lancet into the conjunctiva, at a little distance from the vascular cord, and pushing it under the latter, brought the point out, at a little distance on the other side, by which means these vessels were fairly divided. The eye was at first bathed in warm water, and afterwards a solution of sulphate of zinc. On visiting her two days after, to my surprize, the speck and cord of vessels had wholly disappeared, and she soon recovered her sight.

A boy, about fourteen years old, son of a gentleman in this town, had an inflammation of both eyes, which being vigorously combatted was checked at the end of ten or twelve days; but a speck then appeared on the left cornea, and a row of blood vessels penetrating it from below. Being requested to see him by Dr. Jackson, who attended, we concurred as to the propriety of dividing these vessels. I passed a small cornea knife into the conjunctiva, and divided this membrane, below the cornea, as extensively as possible. The speck was materially lessened on the following day, and afterward gradually disappeared.

Protrusion of the Iris.

A young lady, at play with her brother, had a sharp pointed stick thrust through the cornea, which was immediately followed by a protrusion of the lower part of the iris through the orifice. She would not allow the eyelids to be opened afterward, and therefore nothing material was done for her during the first seven or eight days, at the end of which time, she was brought to Boston. On examination it appeared, that the portion of iris pushed out and swelled, was about the size of a pea. So far as could be judged, it did not adhere on all sides to the edges of the wounded cornea, through which it passed. The conjunctiva was inflamed, and the eyelid was irritated continually, in shutting it over the tumour. With great difficulty she was made to consent to any application, and for two or three days, on every attempt, she closed the eye at once. At last I succeeded in touching a broad surface of lunar caustic to the diseased part. The pain was so slight and lasted so short a time, that she consented more readily to the application on the following day, and this was regularly made for ten or twelve times afterward, but never exceeded a slight touch, as she uniformly closed the eyelids, or distorted the eye, at the instant the impulse from the application was perceived. In this time the tumour was wholly removed. The cornea remained smooth and the conjunctiva free from inflammation. The iris was, of course, greatly distorted, being drawn from the original pupil to the edge of the sclerotic coat; so that the pupil was rendered oblong; nor was there any contracting power in the iris, so long as she remained under my care. The vision of this eye was, however, perfect, so far as could be ascertained, and its appearance was not unpleasant.

Sloughing of the Cornea and protrusion of the Iris.

A patient came into the Alms house in Boston, with a bad inflammation of the eyes, apparently of a scrophulous or low character. The conjunctiva was not highly coloured nor swelled. The cornea had lost its transparency, and had a flaccid, dead appearance. The state of these organs and of the patient's health was such, as that the loss of vision seemed inevitable. He was ordered to take cinchona and full allowance of wine, to have the eyes bathed with a solution of sulphate of zinc, and blisters on the temples. A copious and unhealthy discharge continued, and in a few days a portion of the cornea of one eye sloughed off, and a small part of the iris protruded. He was now directed to wash the eyes, especially that in which the iris protuded, with a solution of nitrate of silver, (two grains of nitrate to an ounce of water) and from this time, the eyes began to mend. The opacity slowly disappeared, together with the redness of the conjunctiva; the eyes gradually recovered their plumpness and the protruded iris separated. At the end of two months he obtained a tolerable degree of vision, and full as great in the eye where the protrusion had taken place, as in the other, although the pupil was materially distorted. Small black points, the extremities of the iris, are still seen near the edge of the cornea and sclerotica, with the latter of which they seem to be incorporated.

Siphilitic inflammation of the Iris and speck of the Cornea.

A foreigner came under my care who had for many months laboured under a succession of siphilitic complaints. He had been recently cured of sore throat; and lately had a fresh ulceration in that part. Judging from the appearance of the latter, and from the history of the case, that this ulceration was not siphilitic, he was directed to pursue a tonic course, which soon cured his throat. In the mean time his eyes, which had some time been disordered, grew worse. On the cornea of the left eye was an opaque speck, of a firm appearance, and connected with vessels in the conjunctiva. The iris of the same eye was contracted to about a sixth part of its common diameter, and the vision of that eye nearly lost. He had also deep seated pains in the head. The enlarged vessels, going to the speck in the cornea, were divided; but without any good effect. This operation was twice repeated with no greater advantage. He was now ordered to take a solution of muriate of mercury three times a day, to have the opaque spot touched with nitrate of silver every other day, and to be blistered continually. It soon appeared that the spot was lessened by the application, and the *iris* seemed at present, to be the principal object for attention. We proceeded therefore to apply to the eye the extract of belladonna in substance. Its action on the iris was at first small but sensible. By a continued use of it, the muriate being taken during the same time, the pupil gradually dilated, and in the space of seven or eight weeks, the power of that eye was in a good measure restored. On omitting the belladonna for some days, the disposition of the iris to contract was apparent. He soon after left me in perfect health, and on quitting town to resume his occupation, came to beg a small portion of the balladonna, that he might apply it himself, if the contraction should reappear.—For suggesting the valuable application of the remedy, in this disease, we are indebted to the late Mr. Saunders.

Injury of the globe of the Eye.

A labourer, engaged in blowing rocks, in the District of Maine, had the misfortune to suffer from an explosion of the powder he was beating in the rock, by which a part of his right hand was torn off and his face and eyes greatly injured. He remained many months, wholly destitute of sight and in a hopeless condition, notwithstanding the use of multifarious remedies. Having a large family, whom he was entirely unable to sustain, his charitable neighbours took compassion on him, and collected a sum sufficient to carry him to Boston, and subsist him there, if there was hope of his situation being improved. When he arrived, he was the awkwardest blind man possible: for he was unable to cross any common room, without great difficulty, unless assisted. He was sensible to light, but could distinguish nothing. The right eye was most injured; its cornea was so uniformly opaque, that only a small spot remained at one edge, through which the iris could be discovered. The cornea of the other eye was in some measure obscured; but the whole of the iris was visible, and appeared studded with small white flakes of coagulated lymph. Similar flakes were attached to the inside of the cornea and floated partially in the sphere of vision. I was embarrassed as to the best mode of treating this man; and hesitated whether to attempt any thing: but as his situation could hardly be rendered worse, I at first thought of two procedures; to endeavour to make an artificial pupil in the worst eye, at the only transparent part; and to puncture the cornea of the other eye, disengage and extract the flakes of lymph, which formed the principal obstacle to vision. Previous to the adoption of these methods, I concluded to try a milder course, which consisted in exciting the action of the absorbents to remove the opacity of the cornea, and take up those lymphatic concretions, which, having been long adherent, had no doubt become a part of the living organ; while, at the same time, methods were adopted to divert the course of those fluids, which nourished the diseased parts. First, therefore, the vessels of the conjunctiva were divided above and below the cornea, in each eye; seizing this membrane with a fine hook, it was excised with curved eye-scissars, as extensively as could be. Then a permanent blister was established on the back of the neck, and two grains of calomel given morning and evening. During the two days after the excision, he remained much the same. On the third, he was convinced he could see better than before; but on the fourth, both eyes were very much inflamed. He had eaten too liberally. A purgative was directed. As low a regimen, as he could exist on, prescribed. Twelve ounces of blood were ordered to be drawn from the arm daily; and he had a solution of sulphate of zinc to bathe the eyes; the calomel being continued. The inflammation remained obstinate for many days, till on the fifteenth from the excision, his eyes were quite easy, the redness of the conjunctiva had greatly diminished, and I found his mouth sore. The quantity of calomel was then lessened. In the following days, his mouth was more affected, and at last there appeared as violent a salivation as I have witnessed. Water poured in a continued stream from his mouth, day and night. He could sleep little, and took no nourishment for three or four days. The salivation continued about three weeks in the whole, during which no great opportunity offered of making a fair experiment with the eyes. After this, having accustomed him gradually to light, which had been wholly excluded, different objects were presented to him; and I had the satisfaction of finding that he could distinguish a hand, a cane and other objects of somewhat smaller size, with the right eye; with the left he saw nothing, though the opacity was lessened. This, being a degree of vision, which I had not ventured to anticipate, and being fully adequate to enable him to pursue the business which maintained him, I did not think proper to try any other experiment, and dismissed him. Before he left town, he was able to walk through the streets without an attendant, and with moderate confidence.

MISCELLANEOUS CASES IN SURGERY, &c.

OPERATION ON THE SAPHENA VEIN.

Communicated by Dr. Peter Bryant, of Cummington.

About the beginning of May, 1813, Rufus P. Bates, a labouring man, apparently about thirty years of age, called upon me and requested me to examine his right leg which he said had become so painful that he was unable to work.

Upon inspection I found the veins upon the anterior and inner part of the limb to be much enlarged and varicose. There had been, however, no ulceration, But what was particularly troublesome, and occasioned much distress, was a tumour situated on the inside of the knee-joint, immediately upon the articulation, about the size of a hen's egg, and was evidently an enlargement of the saphena. I proposed to him the operation of tying as the only probable expedient for a cure, and he expressed his readiness to submit; and I determined to adopt the improvement of Mr. Frere mentioned in the last No. (if I mistake not) of the New England Journal. The day which I appointed to perform the operation happening to be stormy and myself indisposed, I requested my partner, Dr. Ira Bryant to attend for that purpose, which he accordingly did. The operation was performed agreeably to the directions of Mr. Home, except that the ligature was placed about two inches higher than proposed by him, which was rendered necessary by the position of the tumour.

The tumour, and the enlarged veins immediately became flaccid and the success of the operation was complete. The ligature was suffered to remain about twelve hours, when it was removed, and the patient on the fourth or fifth day was able to pursue his usual occupations.

There can be no doubt but a much shorter period would have been sufficient to obliterate the vein, but the patient would not suffer the ligature to be removed sooner, as he was determined, he said, to make the cure effectual.

Dr. J. C. Warren operated lately on a patient, who had been for some time disabled by an enlargement of the saphena vein, which extended from the foot to the groin, was in some places about an inch in diameter, and formed an enormous plexus, covering the whole anterior part of the leg, below the knee. The ligature was applied at the bend of the knee. The skin being raised between the thumb and finger of the operator and those of an assistant, was opened by one cut, then the vein a little detached and an eyed probe with a ligature passed under it, and the ligature tied closely. It was allowed to remain on, four minutes, then cut off and the wound dressed. Adhesion by the first intention took place in the wound and in the vein; for on trial at the second dressing, the blood could not be forced through the part that had been tied. The vein gradually shrunk. The patient complained of severe pain at the moment the ligature was drawn; but it did not last more than a minute, and never returned.

PRETERNATURAL LABOUR.

Professor W. C. Bowen, of Providence, in a private letter to Dr. W. Channing, states the following case: "I was called to a woman who had been in labour between three and four days, and was nearly exhausted when I saw her. One arm of the child had presented, and *had been cut off*, by the attending surgeon before I was called. On examining the woman, I found the vagina completely filled, and the mutilated shoulder presenting at the external parts. With the crotchet, I first separated the shoulder blade, dislodged the contents of the thorax and abdomen, and then dislocated one of the dorsal vertebræ. All difficulty being now overcome, I easily turned and delivered the child. As this patient had great tension and tenderness of the abdomen and of the external parts when I first saw her, I was very apprehensive that extensive inflammation and sloughing would follow, but fortunately this has not been the case, the woman is in a fair way of recovery, and it is a fortnight to-morrow since she was delivered." In another letter of a later date, in answer to some inquiries I made in my answer to his first, Dr. B. observes, "In the case lately described to you," viz. the above, "the left arm of the child presented, the head was towards the right side of the pelvis, and the breech and feet of course, to the left; and towards the fundus uteri. It was physically impossible that *spontaneous evolution* could have taken place in this case, the child was so completely jammed into the vagina, and the uterus rigidly contracted upon it."

Dr. Denman, in his Aphorisms on the use of the Forceps and Vectis, treats concerning cases similar to the one above mentioned; but neither he nor any other author I have consulted, recommends the practice followed previous to Dr. Bowen's being called in for consultation. Hoornius recommends indeed, in such a case, to separate the head from the trunk, then turn the child, extract it, and then bring away the head. Heister's comment on this practice is full of cautions. We are to be certain that the child is dead, or that the mother is in the greatest danger from the longer continuance of ineffectual labour. We are advised by Dr. Denman, in the work above quoted, in a case similar to that just related, (viz.) where the arm and shoulder are completely jammed in the vagina, and the uterus firmly contracted on its contents, to wait for what he terms a spontaneous evolution of the child, by means of which the arm will be drawn up from the vagina, and the child be so altered in its presentation, as that the breech shall be first expelled.

PROTRUSION OF THE BRAIN.

Dr. Sibley of Union has communicated a case of fractured cranium, in which the dura mater was wounded and a small portion of the substance of the brain lost. The patient was trepanned by Dr. Brown of Waldoborough; he was delirious a short time after the operation, and on the fourth day the brain began to protrude from the wound and continued to increase to the height of an inch, at the same time suppurating freely. Being lessened to half its size by the suppuration, pressure was applied, which in a few days reduced it wholly, and the boy soon recovered his health of body and mind.

SPINA BIFIDA.

Dr. Sewall of Ipswich informs us of a case of spina bifida, which, at the age of two years was accompanied with a tumour at the fontenelle, which by pressure could be made to disappear, while the tumour on the spine would be proportionately enlarged. In consequence of the solicitation of the parents, this tumour was punctured and on its being emptied, that at the fontenelle also subsided. Convulsive respiration immediately succeeded the operation, in six hours spasms, and at the end of twelve, the child expired.

FOREIGN SUBSTANCE IN THE LUNGS.

Dr. Buck of Wilmington has given us an account of a case, in which a boy about two years old was suddenly seized with symptoms of a severe pulmonic affection, which continued occasionally by severe, suffocating paroxysms to reduce his strength for above three months; when he was so exhausted as to be continually threatened with death. A violent fit of coughing and suffocation induced his mother to give him, according to the common practice, a smart blow on the back, which had the effect of driving a water melon seed from the trachea; the patient was relieved and recovered.

LOSS OF THE LOWER JAW.

In one of the late naval battles, a sailor had great part of the inferior jaw bone carried off by a grape shot. The appearance of this poor man was frightful. His face was swelled, mouth wide open, and great quantities of saliva pouring out of it. In about 14 days, the shattered bones separated from the flesh, the swelling subsided, the mouth closed, so as to allow the patient to swallow and articulate. This favourable termination is to be attributed to the singular preservation of the under lip.

REVIEW.

ARTICLE XVI.

Recherches sur les Bois et le Charbon, par Le Comte de Rumford, F. R. S. Lieutenant-General au service de S. M. le Roi de Bavière ; associé étranger de l'Institut Impérial de France, &c. &c. Paris, &c. 1812. p.p. 60.

Count Rumford is already well known to the philosophical world for the variety, the delicacy and the accuracy of his experiments on light and heat. These subjects appear to be constantly present in his mind, and all his late researches are in a greater or less degree connected with his favourite pursuit. This circumstance we cannot regret, since from what has already been published by this gentleman, many facts have been made known which are susceptible of practical application, and which of consequence may be of importance to general society. The object of the author in this memoir is to state the result of a number of experiments, instituted with a view of ascertaining the structure of woods, the specific gravity of their solid parts ; the quantity of liquids and of elastic fluids they contain in different circumstances ; the quantity of charcoal, which they are capable of furnishing, and the quantities of heat which are developed during their combustion. We propose to give a general analysis of this memoir.

Count Rumford first details some experiments on the drying of woods, and their consequent loss of weight. His general mode was to take ten grammes* of thin shavings of wood which had been suffered to dry for eight days, in a room the temperature of which was at 60° of Fah. these were put on a plate of porcelain, introduced into a stove of sheet iron *moderately* heated for twelve hours and suffered to cool for twelve hours longer. After being once heated and cooled, their colour was not altered but they had lost about one tenth of their weight. On repeating the experiment, their colour changed from a yellowish white to a clear brown, a deep brown more or less yellow, and in some of them to a fine purple.

---

* A gramme is equal to 15.4400 English grains. As the Count, however, has used decimal propositions, it is more convenient to retain the French denomination.

The following table exhibits their weight when taken from the stove, ten grammes of each having been originally employed.

Oak	7.16
Elm	8.18
Beech	8.59
Maple	8.49
Ash	8.40
Birch	8.60
Cherry	8.60
Linden	7.86
Ditto after exposure to the air for two days	8.06
Male Fir	8.46
Female Fir	8.66

The author then wishing to ascertain whether by continuing their exposure to this moderate degree of heat,* the wood might not be reduced to charcoal, took one half of the dried shavings of the Linden, which weighed 4.03 grammes; these were put on a porcelain salver, which was placed on a cylinder of Delftware 4 inches high and three in diameter, covered with a bell glass, the lower edge of which was immersed in ashes strewed on the stand or platform of the cylinder, for the purpose of excluding the air, and were heated for twelve hours in the usual way. On withdrawing the apparatus twelve hours afterwards, the glass was yellowish and obscured, the shavings had become perfectly black, had preserved their form and weighed 2.41 grammes. The apparatus was replaced in the stove and again heated for twelve hours; in twenty-four hours the shavings were found to weigh 1.5 gramme, the bell-glass was still obscured and of a blackish yellow throughout, but in the greatest degree on its superior surface. The process of heating was renewed for the third time; on being taken from the stove, the author was much surprised to find the glass perfectly transparent, and that it did not exhibit a trace of the film which had previously covered its internal surface. The colour of the wood was also changed from a perfect black to a pretty deep purple. It weighed 1.02 gramme. The same process of heating, &c. was twice repeated and it was found that the weight of the wood was successively diminished, till, at length, the five grammes of shavings were reduced to 0.27 of a gramme, or to one twentieth of their original weight. "I am persuaded," says Count Rumford, "that they would have been diminished still further if the experiment had been continued, but it had been prosecuted sufficiently long to establish this remarkable fact, *that charcoal may be dissipated by a degree of heat much less than that, which, until now, has been considered necessary for its combustion.*"

---

* The precise temperature of the stove is not mentioned, but from some subsequent experiments, we infer that it was between the 240th and 260th degree of Fah.

By a subsequent experiment, conducted nearly in the same manner, it was found that the same effect was produced on common charcoal, when very minutely divided.

The Count in reasoning on this experiment, supposed that the charcoal had disappeared in consequence of its combination with oxygen, by which it assumed the form of carbonic acid gas. This conjecture he thinks was verified by the following experiment.

He took ten grammes of the shavings of Birch and dried them in the stove until they had acquired a deep brown colour bordering on purple, and their weight was reduced to 7.7 grammes of this dried wood, three parcels were made. The first was placed on a white porcelain plate, and exposed to the heat of the stove naked; the second was exposed in the same manner; but was covered with a bell glass six inches in diameter; the third was put into a jar six inches high, and one inch and a quarter in diameter, which was inclosed in a glass vessel and placed in the same stove, which was heated in the usual way.

The next day the two first parcels had entirely disappeared, except a very small quantity of ashes, which amounted in weight to no more than 0.04 of a gramme. The third portion had not disappeared, but was converted into perfect charcoal. On the results of this experiment, the details of which would require more space than we can spare, the Count observes,

"Since the three portions of shavings were of the same wood and of the same weight; since they were all exposed to the same degree of heat, and during the same time; and, finally, since the two portions which, I had placed so as to facilitate the disengagement of the carbonic acid gas, arising from their decomposition, entirely disappeared, while the third portion was so situated as to render the escape of the gas impossible, had not disappeared, but, on the contrary, was preserved in the state of charcoal, there is no doubt, it appears to me, on the cause of the phenomena, which were observed, and it is certainly a curious fact, *that charcoal, which, until this time, has been regarded as one of the most fixed bodies known, can combine with oxygen and form with it carbonic acid gas, at a temperature much below that at which this substance visibly burns.*

2. The specific gravity of the solid parts of different woods, was found by taking a definite quantity, 10 grammes for example, drying it in a stove for two hours at the temperature of 245° of Fah. again weighing it in the air, and afterwards in water of the river Seine, at the temperature of 60° Fah. which had been previously boiled. The following are some of the results:

Water, - - - - 10,000.

10 *grammes of*	*Dried.*		*Spec. grav.*
Poplar	8.045	grammes	14854
Linden	8.121		14846
Birch	8.062		14848
Fir	8.247		14621
Maple	8.137		14599
Beech	8.144		15284
Elm	8.180		15186
Oak	8.336		15344

The specific gravity of dry wood and of dry charcoal, Count Rumford found to be very nearly equal, and this fact he considers as an argument in favour of their identity.

3. "The specific gravity of the solid parts of a plant being known, it is very easy to determine in any case the volume of air contained in the vessels and pores of the vegetable.

An example will render this evident. An oak in perfect health and in full vegetation was cut down in Sept. 1812. A cylindrical piece, 6 inches long and rather more than an inch in diameter, taken from the trunk, about three feet from the earth, weighed, while thus full of sap, 181.57 grammes.

Having plunged this piece of wood into a cylindrical glass jar filled with water, at the temp. of 62° F. I found that it displaced 188.57 grammes of the fluid. Whence I concluded that the cylinder thus filled with sap, was equal in volume to 9.5093 cubic inches and its specific gravity to 96515, and consequently that a cubic inch of the wood weighed 19.134 grammes.

Forty very fine shavings detached from it weighed 19.9 grammes, and these when perfectly dried in the stove at the temperature of 262° Fah. weighed 12.45 grammes.

From the results of this experiment, it is obvious, that the wood in question, being filled with sap, was composed of 12.45 parts of wood and 7.45 parts of water, or of sap, the specific gravity of which is nearly that of water.

Now as one cubic inch of the wood weighed 19.134 grammes, it is very certain that it was formed of 11.971 grammes of lignevous or solid parts and 7.161 grammes of sap.

But we have already seen, by the results of experiments which I have already detailed, that a cubic inch of the solid parts of oak weigh 30.42 grammes, consequently, the 11.971 grammes of solid parts which are found in one cubic inch of this wood when the tree was living, could not have a volume greater than 0.39353 cubic inch.

As one cubic inch of water weighs 19.85 grammes, the 7.163 grammes of sap, which are found in 1 cubic inch of this wood, ought to occupy a volume equal to } 0.36122

Consequently there was in 1 cubic inch of the wood in question a quantity of air equal in volume to - - . } 0.24525

The whole equal to 1.00000 cubic inch."

4. In the third section of the second memoir, are detailed some experiments by which the author attempted to ascertain the relative quantities of sap and of air found in the same tree in winter and summer, and in different parts of the same tree at the same period.

From the results of two of these "we might conclude that the trunk of a tree contains more sap in winter than in summer, and more air in summer than in winter."

From another experiment the Count observes, "that there was much more sap and less air in the wood which composed the superior part of the branch, than in the inferior parts of the branch nearer the trunk."

"I have constantly found that the specific gravity of young wood, for example of shoots (pousses de l'année) is considerably greater than that of old wood, doubtless because it contains more sap and less air."

The roots of the Linden, were found by the author, to contain more ligneous parts, and more sap but less air, than a portion taken from the trunk or from a branch.

We shall pass over the two following sections on the quantity of water contained in wood regarded as dry; and on the quantity of water which different species of wood perfectly dry are capable of attracting from the atmosphere, and conclude this brief notice with the results of Count Rumford's experiments to ascertain the quantity of charcoal which can be obtained from different species of wood, and the amount of heat developed during their combustion.

"In the carbonisation of wood there is a decomposition and production of the pyro-ligneous acid. This fact has been long known, but in some of my experiments, and above all in those made with the fir, at a very moderate heat, I have obtained a product which after the most accurate examination, has appeared to me to be *bitumen*. It was condensed on the internal surface of the plate of glass, which shut the vase and it afterwards ran in large drops over the vertical surface of the sides of the vase. It was of a deep yellow colour, hard and brittle. It was affected neither by boiling water nor boiling alcohol, but it was slowly dissolved in sulphuric ether."

The following table will show the relative quantity of charcoal obtained from the same weight of six different species of wood.

Dried wood.	*Charcoal.*
Poplar - - - - - -	43.57 Parts.
Linden - - - - - -	43.59
Fir - - - - - -	44.18
Maple - - - - - -	42.23
Elm - - - - - -	43.27
Oak - - - - - -	43.00

The quantity of heat developed in the combustion of wood was measured by a calorimeter, for a description of which the Count refers to a paper read by him before the first class of the Institute in Feb. 1812; and by the quantity of water which could be raised from the temperature of 32° to 212° or 180° Fah. An extensive table is given of the results. Some of these will soon be noticed.

"One fact," says the author, "which is certainly very curious and very important to the science of vegetable physiology, appears to me to be well established; it is this, that the skeleton of trees is pure charcoal and that it exists ready formed in the wood.

If this charcoal did not exist ready formed in the wood, it could not preserve its form while the vegetable pulp by which it is enveloped, is destroyed by the fire in the process of carbonisation.

As this vegetable pulp contains hydrogen as well as carbon, it is more inflammable than the charcoal and burns at a lower temperature, and by managing the fire it may be entirely burnt and dissipated, before the skeleton of charcoal which it covers is injured."

"The charcoal maker hardly does any thing more than burn the pulp of the wood for the purpose of exposing the skeleton of charcoal."

"In equal weights, dry vegetable pulp gives out more heat during its combustion than dry charcoal."

The last section of this interesting memoir contains some estimates on the quantity of heat lost during the conversion of wood into charcoal.

"As one pound of charcoal perfectly dry gives enough heat during its combustion to heat and boil 57.608 pounds of water, previously at the temperature of 32° Fah. and, as one pound of perfectly dry wood furnishes 43.33 parts of dry charcoal, it is evident, that the charcoal which is found in one pound of dry wood ought to furnish sufficient heat to raise the temperature of 24.958 pounds of water from 32° to 212° or 180 degrees of Fah.

But we have seen above that one pound of perfectly dry wood ought to furnish heat enough in its combustion to heat 43.143 lb. of water 180° of Fah.

These two numbers (43.134 and 24.958) which express the quantities of heat in question, being in the proportion of 100 to 57.849, it is evident, that the loss of heat *inevitable* in the carbonisation of wood, is more than 42 per cent or exactly 42.151 per cent of the whole quantity of heat which the wood can furnish."

"One very important fact, which appears to be well established by the results of this research, is that all the charcoal arising from the carbonisation of three pounds of any wood whatever, hardly produces more heat in its combustion than can be furnished by one pound of the same wood, when it is burnt in the state of wood."

ARTICLE XVII.

The American New Dispensatory, containing General Principles of Pharmaceutic Chemistry, Chemical Analysis of the articles of Materia, Pharmaceutic operations ; Materia Medica, Medica, including several new and valuable Articles, the production of the United States. Preparations and Compositions. With an Appendix, &c. &c. By James Thacher, M. D. A. A. M. M. S. &c. Second Edition. Boston: T. B. Wait & Co.

The reception of a former edition of the American New Dispensatory, has been highly flattering to its meritorious author. The sale of a thousand copies in the short space of two years, is a sufficient evidence that the public have approved both the undertaking and manner of execution. Practitioners have availed themselves of the new book, as a work comprising much necessary information, within a small compass, and peculiarly adapted to the country in which it is published.

As the circulation of the New Dispensatory must be more extensive than that of our Journal, it would be superfluous in us to present a detailed account of its contents. Such remarks as we have to offer are intended for those who possess the work, rather than for such as are strangers to its contents. We shall be satisfied if our commentary should add in the least to the precision or utility of a book of acknowledged value.

Dr. Thacher, in addition to the common or standard articles, which hold a place in every pharmacopæia, has devoted much attention to the popular and interesting subject of indigenous medicines. On the authority of the excellent works of Professor Barton, the occasional communications of others, and his own private experience, he has introduced more than fifty native articles of real or reputed medicinal efficacy. Many of these have been the subjects of experiment for a sufficient length of time to decide their character. Others are only known to possess positive and active properties, without having their nature precisely investigated.

We perfectly agree with Dr. Thacher in the utility of studying and investigating the productions of our own soil. But in order that investigations of this kind may have their desired utility, and indeed that they may not involve mistakes of serious consequence; it is obvious that the most perfect botanical accuracy should be observed in describing and identifying the species of plants intended. For want of this necessary precision, we are often led astray by the common names of plants and by loose general descriptions of their habit and appearance. American plants are substituted for European species of very different qualities; and vegetables of opposite characters are confounded together, from a remote resemblance of their exterior. The author of the present work, has in general presented his articles in so distinct a light that no mistakes can result to the cautious in their collection and use. But in some instances there is a want of the necessary correctness in descriptions and names; in others there is no suitable guide to inform us whether articles, whose descriptions are copied from European works, are the same with those bearing the same vulgar names among us. Indeed the descriptions of many of these articles, appearing to come from the American author himself, unattended by a notice of their native country, may, it is feared, lead to considerable errors in the uninformed and incautious. An apology is no doubt found in the imperfect manner in which our vegetable productions have been investigated. It is with the belief that no suggestions on this head will be useless, that we shall briefly comment on a few articles of the Dispensatory.

IRIS PSEUDACORUS. *Water flag, Flower de luce, Blue flag.* "This plant," says Dr. T. "is perennial and grows in great abundance by the brinks of rivers and in other watery places. It blossoms in July. Its flowers are *blue*, variegated with white, yellow and purple, its leaves sword shaped." From this imperfect description, it is obvious that the plant intended is the Iris Virginica or common blue flag of our meadows. The account of its drastic effects, copied from the Edinburg Dispensatory, belongs to the I. Pseudacorus, which is an European species, with yellow flowers.

NIGELLA. *Golden thread. Mouth root (Cutler)*" Dr. Cutler in his catalogue of indigenous vegetables has marked this name as uncertain. Apothecaries who label their drawers of this article should observe that the true Linnæan name is *Helleborus trifolius.*

"PINUS LARIX. *The Larch tree.* The liquid resin called Venice turpentine and volatile oil, called oil of turpentine." It is well to observe, that the oil of turpentine used among us is derived almost exclusively from the pitch pine of the southern states. *(pinus palustris)* As this article has of late come into considerable use, it would be of some importance to ascertain whether the degree of strength and acrimony be the same in the oil afforded by the larch and that procured from the pitch pine.

DATURA STRAMONIUM, *Thorn Apples, Apple Peru.* "It has" says Dr. T. "a large branched purple coloured stalk, spreading and rising to three or four feet in height." We have formerly, (note page 2 of this vol.) expressed an opinion, that the purple stalked datura of this vicinity, is the Datura tatula of botanical writers. We now give the characters of the two species literally translated from Willdenow.

Datura Stramonium. Pericarps spinous, erect, ovate; leaves ovate, glabrous.

Datura tatula. Pericarps spinous, erect, ovate; leaves heart shaped, glabrous, toothed.—*Like the D. Stramonium but twice as large. Stalk purplish, sprinkled with white dots, divided at an acute angle, smooth. Corollas pale blue. Leaves sharply toothed, heart shaped when they are spread out.*

The descriptions in the Gardener's Dictionary of Miller and in the Encyclopedie Methodique are similar. It is obvious that the last description applies precisely to the common blue thorn apple of our vicinity and identifies it as the Datura tatula. Between this species and the D. Stramonium or thorn apple with a green stem, which is less frequent with us; a considerable difference exists. The D. Stramonium is a smaller plant, its flowers are shorter and calyx more turgid; and in plants of the middling size, as far as we have observed, the stem is pithy, *(caulis inanis)* whereas in the D. Tatula it is pipy or hollow. *(caulis fistulosus)* In their general medicinal effects, we have no doubt, the two species are similar, though they may differ in strength.*

As a considerable number of European plants are so described as to leave it doubtful whether they are or are not natives of the United States, we shall offer some brief notes principally on that subject.

Acorus Calamus, is a native in this vicinity.
Æsculus Hippocastanum, cultivated, not native.
Althæa officinalis grows on our marshes.
Arum maculatum, not native.
Atropa belladonna, not native.
Conium maculatum, very common in this vicinity.
Helleborus fœtidus, not native.
Hyoscyamus niger, grows in Boston and other parts of the state.
Inula helenium, native.
Lactuca virosa, not native.
Leonurus cardiaca, native.
Lichen Islandicus, said to be found on the White mountains.
Marrubium vulgare, native.
Mentha viridis, naturalized.
Mentha piperita, not native.
Mentha pulegium, not native.
Oxalis acetosella, native.
Pinus abies, not native.
Quercus robur, not native.
Rhamnus catharticus, not native.
Solanum dulcamara, common in this vicinity.

---

* Figures of the Datura Stramonium, are given by Curtis, Sowerby, Woodville and others; one of the Datura Tatula by Meerburgh, Icones pictæ, Leyden. 1798.

Tormentilla erecta, probably not native.

Urtica dioica, native.

Viola odorata, not native.

Veratrum album. From the circumstance of the claws of the petals being thickened at the side within, we incline to the belief that the common pokeroot of our meadows is the Veratrum viride, described in the Hortus Kewensis as a native of North America. In other respects it appears to agree with the representations given of Veratrum album. Its medicinal similarity should not be presumed on, before suitable trials have been made.

In deciding the question, whether a plant is or is not native, it is obviously diffiult to make a general negative assertion. Our authority in such cases can only be derived from our own observation and from the most approved catalogues of indigenous vegetables which have been published.

We consider it of importance to ascertain the place of growth of medicinal plants, since it is known that our druggists often collect articles from the country with no other guide than their vulgar names.

We are happy to observe that the typographical errors, which occurred so frequently in the technical names in the first edition of the Dispensatory, are in a great measure corrected in the present. The following, however, may be suggested for correction in this edition. Page 156, about the middle, for *Syriara*, read *Syriaca.*—Page 310, for *Prunus Cerasus Virginiana*, read (we presume) $\left.\begin{matrix}\text{Prunus}\\ \text{Cerasus}\end{matrix}\right\}$ Virginiana.—Page 313, for Santolinus read Santalinus.—Page 319, for Crysanthum, read Chrysanthum.—P. 341, last line but one, for dulcamaru, read dulcamara.—P. 342, l. 17, for Indigo fera, read Indigofera.—P. 355, middle, for Mahagony, read Mahagoni.—P. 375, for Cornusflorida, read Cornus Florida.—for Frasero read Frasera—for Sentellaria read Scutellaria—for Tanasetum read Tanacetum—for Xanthorhira read Xanthorhiza.—These inaccuracies we notice, as they occur in the names of Dispensatory articles. There are others of less note, particularly in the "Glossary" at the end, which might have been omitted without detriment to the work. Its first definition is radically erroneous, its second wrongly printed, its third unintelligible.

As the American New Dispensatory will no doubt continue to be a standard work among the physicians and apothecaries of the eastern states, we have made our suggestions solely with a hope of promoting its utility. We willingly ascribe to the author the credit of having collected his meterials with great industry, and of having presented much useful matter in an interesting light of view. The second edition is improved with many valuable additions and will form a very useful acquisition to most American practitioners.

ARTICLE XVIII.

Practical observations on Ectropium, or Eversion of the eyelids, with the description of a new operation for the cure of that disease; on the modes of forming an Artificial Pupil and on Cataract. By William Adams, Member of the R. College of Surgeons in London, &c. p.p. 252.

[From the London Med. and Phys. Journal for April, 1813.]

The work before us appears to be the result of a very extensive practical experience, from which source our author has drawn some highly important information, and made many valuable discoveries relative to those diseases of the eye on which he treats. With a laudable zeal for the improvement of that branch of surgery to which he now confines his practice, he has, in the present volume, communicated to the public, this information, and these discoveries, in a perspicuous and candid manner, acknowledging with a becoming frankness, the difficulties he had to surmount in bringing the different operations to their present state of perfection, whereby those, who may be inclined to practice the same branch of the profession, will be enabled fairly to appreciate the nature of the task they are about to undertake. Contrary to what too often happens in the present rage for bookmaking, this volume is composed of observations and inductions, drawn from the cases which are fully detailed, and proportionally interesting and satisfactory; whereas it frequently happens that cases are formed to support particular hypothesis, and although the leading particulars may be accurately stated, yet there is an evident bias to support opinions which the authors originally entertain. The first part of Mr. Adams' preface given in his own words, will probably better explain the nature of the work before us.

"In the following sheets, it has been a principal object briefly to describe my practice, in the different diseases of which I have treated, and to relate the alterations and improvements in the operations, which experience has suggested to me. When I have spoken of the practice of others, it has been solely to elucidate the subject in discussion, or to point out in what respect it either coincides with, or differs from, mine. I have, therefore, avoided swelling my book with numerous quotations, which tend rather to shew the researches of the author than to increase the value of his practical remarks."

It would be well if this commendable feeling generally prevailed. It appears from Mr. Adams, who is well known as the late surgeon of the West of England Infirmary for curing Diseases of the Eye, that he was the intimate friend, and confidential pupil, of the late Mr. Saunders. The death of this excellent practitioner was justly considered to be a great and serious loss to the profession; but it is a happy circumstance for suffering humanity that Mr. Adams having, for a considerable time, witnessed and assisted in all his operations, both in public and private practice, and having also entertained an unreserved and friendly intercourse with him to the latest period of his life, has been thereby enabled to retain some facts of importance, not mentioned in Mr. Saunders' posthumous work, and even successfully to build a superstructure on some hints thrown out by him which otherwise would have been lost to the world. We hope Mr. Adams will investigate other diseases of the eye with the same industry and perspicuity he has evinced in regard to those of which he here treats, and that he will hereafter, as in the present instance, give to the public, a candid and unostentatious account of the result of his experience.

From the originality and ingenuity displayed throughout this work, we do not think he has exhausted himself in the present publication, and should he adopt our suggestions, we shall not despair of seeing diseases of the eye considered in a less empirical manner than heretofore, or of witnessing still more important improvements in their mode of treatment.

Our author has divided his work generally into three chapters; the first on ectropium, the second, on contracted or obliterated pupil, and the third, on cataract. These are again subdivided into sections, for the sake of order and perspicuity.

Chapter I.—The usual modes of operating for the cure of ectropium, or eversion of the eye-lids, as recommended by Professor Scarpa, Mr. Ware, and the other writers on this disease, consisted in removing, with a curved pair of scissars, or with caustic, a portion of the conjunctiva on the inside of the eye-lid, in order to produce an adhesion and contraction of the remaining part, by which means, the deformity and frequent inflammation occasioned by so great an eversion and exposure of the sensible conjunctiva might be removed. These methods, our author informs us he found ineffectual for a radical cure of the worst forms of the disease, as some degree of eversion still remained, which gave rise to repeated inflammations, the vessels becoming again turgid and overloaded, thereby producing the disease in as great a degree as before the operation. Mr. Adams then proceeds to state, in the following words, what led to the adoption of his present mode of practice.

"Mortified at having myself been foiled, like others, in the removal of this deformity, I endeavoured, soon after the establishment of the West of England Eye-Infirmary, at Exeter, to which I was appointed Surgeon, to devise some more effectual method of cure than any of those hitherto practised. With this view I was led attentively to mark the appearance of the complaint in its most aggravated form and to compare it with that of the eye-lids when in a healthy state.

"The edges of the tarsi, if the upper and lower lids are free from disease, when the eye is closed, are very nearly parallel; but when the eversion exists in a considerable degree, in the lower lid, its edge is forced down towards the cheek, and forms a line of a crescent-like figure. In consequence of this morbid change in the parts, so much of the exquisitely sensible membrane of the eye-lid becomes everted, as to prove a continual source of pain and irritation to the patient, when exposed to heat or cold, sharp winds, dust, &c."

This comparison of the eye-lids, when in a sound and healthy state, must be admitted to be perfectly correct; but we have some doubts of Mr. Adams' mode of accounting for the production of the crescent-like curvature of the lower lid by an elongation of the tarsus, being equally just, as it appears to us much more probable, from the superior ductility of the integuments of the eye-lids, to that of the tarsus, which is of a cartilaginous structure, that the integuments of the lids, and not of the tarsus, are in fault. An artificial ectropium may be produced by drawing down the lid, which returns to its situation by the pressure being removed. We, therefore, would not say that the tarsus was elongated, because it is inelastic, but we should say that the integuments about the lid had been put upon the stretch. It is not surprising, however, that Mr. Adams should express himself as he has done, as his mode of cure consists in shortening the lid, by removing a considerable portion of the tarsus and lid in the form of a V, and afterwards uniting the two raw surfaces by the first intention, by means of a ligature. The part of the lid from which this portion is to be taken, the different steps of the operation, and the after treatment, are fully described by our author in his work, to which we refer our readers.

The description of this operation concludes with an expression of surprise that, from its obvious simplicity, it should not have previously occurred to any of the eminent authors who have professedly written on the disease. Four cases are given in which it proved completely successful; and the coloured engravings of the disease, before the operation and after its removal, exhibit very satisfactorily the advantages obtained.

The preceding operation applies to simple ectropium, but the disease is sometimes found to exist in a more complicated form, when caused by cicatrices from small-pox, burns, scalds of the face, &c. Professor Scarpa was of opinion, that a complete cure could never be expected in such cases, as he imagined that the portion of the integuments destroyed could not be reproduced. Our author entertains a different opinion, and, although he does not appear to have performed the operation which he recommends for the removal of this species of the disease, yet, as the mode proposed is very ingenious, and likely, we think, to answer his expectations, we shall give it in his own words.

"In this species of the disease, I would recommend that a free separation of the eye-lids and cheek should be made, and afterwards the lid should be shortened, and brought into contact, in the same manner as in a case of simple eversion. By the speedy union of the divided edges, the eye-lid will be retained in its place, and the danger of the integuments adhering to the cheek be in a measure prevented. The extended raw surface would, most probably, be covered by a new production of the skin; but should even some degree of shortening of the integuments occur during the progress of cicatrization, and the edge of the tarsus be again somewhat pulled downwards, it will then be reduced to that stage of the disease where the caustic or scissars may be employed with advantage. Should any disposition to a relapse, be observed during the progress of the cure, pressure may be made by means of a soft compress on the lid against the eye-ball, by means of a monoculus bandage; and the after treatment should, in every respect, be the same as that directed in cases of simple eversion."

The upper eye-lid is also subject to the same kinds of deformity as the lower lid, which prove even more distressing in their effects. Fortunately this appears to be a rare occurence,—as in Mr. A's extensive field of observation for diseases of the eye, he has seen but one case of the kind; and he recommends the same modes of treatment to be observed as when the lower lid is the seat of the disease.

Chap. II. On contracted or obliterated pupil—commences with a concise history of Cheselden's operation for artificial pupil; and quotations are given in it from many of the most celebrated authors who have written on diseases of the eye, which prove that the result of various trials of this operation both in England and on the continent, were so unfavourable as to induce the most eminent surgeons and oculists to abandon it altogether as useless and inefficient. Mr. Adams has also given a detail of the circumstances which led to his adoption of this obsolete practice, proving by unquestionable facts, that he communicated to Mr. Ware the favourable result of two operations of this kind eighteen months before the publication of the third edition of Mr. Ware's works on diseases of the eye, in which edition although he speaks in high commendations of Mr. Cheselden's operation (in direct contradiction to the opinion given in the second edition of the same work,) yet as Mr. A. complains, and we think with justice, that he has thus anticipated him in its communication to the public, without any acknowledgement that he was indebted to Mr. Adams for the first information of its successful revival. We regret this circumstance for the cause of science as well as liberality, since nothing can tend more to prevent that confidence which men of eminence of the same profession ought to feel towards one another, than the conduct just noticed. We however, hope it will not influence that liberality of sentiment which has hitherto induced Mr. Adams to invite his professional brethren to witness his various and ingenious operations on diseases of the eye, whenever called upon to perform them; but, that pursuing the same uniform line of conduct, his continued and well deserved success will still farther strengthen the favourable opinion entertained of his modes of practice by those who have seen the performance, and the result of his different operations.

In the second section, are described operations adapted to the various morbid states of the eye requiring an artificial pupil. These are, for the simple obliteration of the pupil, obliterated pupil complicated with cataract, and obliterated pupil with opacity of the transparent cornea. The first is adapted to the formation of an artificial pupil after that aperture has become closed, subsequent to the removal of the crystalline lens, which our author denominates a simple obliteration of the pupil. With a narrow edged knife, curved at its point, like a dissecting scalpel, he makes a central division of the iris, two thirds the diameter of that membrane, by introducing the instrument through the coats of the eye, a line posterior to the iris, with the edge turned backwards, instead of downwards as recommended by Cheselden; the point is then brought through the iris into the anterior chamber, and carried nearly to the nasal margin of the iris; it is then nearly withdrawn, making a gentle pressure against the iris with the curved part of its cutting edge, in the line of its transverse diameter. Instead of making considerable pressure with the instrument, and drawing it at once out of the eye, as recommended by Cheselden, by which the iris was frequently separated from the ciliary ligament, Mr. Adams advises a very gentle pressure to be made use of, and to carry forward and withdraw the knife repeatedly until the opening is sufficiently extensive, when the radiated fibres contract and form an opening of a large size.

When a contraction or obliteration of the pupil is complicated with an opacity of the crystalline lens, the primary steps of the operation are the same as in simple cases of that disease. The cataract is afterwards to be cut in pieces very freely, a part of which is recommended to be pushed into the anterior chamber, and the remainder suffered to remain in the newly made opening in the iris, which, acting as a plug, prevents the reunion of the edge of that membrance by the first intention. In the course of some weeks, when the portions of cataract are absorbed, all disposition to a contraction of the newly formed pupil has subsided. When from any accident, the lens is absorbed prior to the operation, but the capsule remains in a thickened and diseased state, if it can be divided in pieces it is to be placed in the anterior chamber that it may become dissolved. When that cannot be effected, it is to be depressed below the axis of vision.

In cases of cataract with closed pupil, Cheselden supposed that the opaque lens was of a smaller size than usual. Under this impression he recommended the division of the iris to be made either in its upper or lower edge, by which means, the light would not be obstructed in its passage to the retina. Mr. Adams very justly objects to this mode, first because the supposition that in such cases the crystalline lens was smaller, proves incorrect; and secondly, the rays of light being refracted towards the center of the iris, during their passage through the cornea and aqueous humour, vision must be proportionally indistinct according to the distance of the new pupil from that point. He adds, that in the majority of instances the opaque lens, so far from creating any difficulty in the execution or successful result of the operation, is actually serviceable in as much as the fragments not only prevent a reunion of the divided iris by the first intention, but also assist them in their contraction, whereby an aperture of a sufficient size for the passage of light is obtained. This aid as well as stimulating the iris with the point of the knife, is sometimes necessary, in order to excite the radiated fibres to act, when the disease has existed for any considerable period; and Mr. Adams remarks in his general observations, that this contraction occurs sometimes even two or three days after the operation has been performed.

The third division includes the necessary steps for the formation of an artificial pupil, in case of opacity of the cornea, when the natural pupil is either obliterated in consequence of a protrusion of a large portion of the iris through an ulcerated opening in the cornea, or when the pupil is entirely obscured by a superficial ulceration of the cornea or capsule of the lens. In the first species of case, if the opacity does not obscure more than a third part of the cornea, a division of the iris should be made at the lower or outer part of the cornea, as in obliterated pupil complicated with cataract, a part of the divided lens brought into the anterior chamber, and the remainder used as a plug, by being interposed between the edges of the divided iris, in order to prevent its reunion. If the opacity occupies so large a portion of the center of the cornea as to leave only one line clear at the margin, our author introduces the artificial pupil knife at the upper and outer part of the eye, and makes a vertical instead of a transverse division of the iris. The operation somewhat resembles that of Scarpa, which, however, instead of dividing the fibres of the iris detached the iris from the ciliary ligament next to the nose. When the pupil adheres but slightly to the cornea, in consequence of the iris being protruded in a small degree, Mr. Adams advises the artificial pupil knife to be introduced a little anterior to the iris, and its point carried on to the part where the adhesion of the iris to the cornea exists: the adhesion should then be divided, when the iris will recede to its proper place, the size of the pupil be again restored, and, provided the cicatrix in the cornea be not very large, the patient will recover useful vision. If in addition to a small protrusion of the iris through the cornea, and its consequent adhesion to the cicatrix, there is a considerable contraction, or an entire obliteration of the pupil; the operation of a central division of the iris is to be performed, and the knife brought forward, through the newly formed aperture, into the anterior chamber, and the adhesion of the iris obliterated.

The extracts from our author have hitherto been confined to those species of the disease, where ulceration through the whole substance of the cornea has taken place, which is always followed by a greater or smaller protrusion of the iris. Opacities of the cornea often, however, produce a partial or total blindness, without any protrusion or adhesion of the iris. When the opacity is small, a drop of a strong solusion of the extract of belladonna, applied daily, will afford very useful vision, by enlarging the pupil sufficiently to admit the rays of light, by the circumference of the opacity. No apprehension, it appears, need be entertained from the long continued use of the belladonna, it being the opinion of our author, as well as Mr. Saunders and the late Mr. Hill of Barnstable, (with whom, it appears, our author and Mr. S. served their apprenticeships) that its action is confined to the iris, and that it does not, in any degree affect the retina. If the opacity of the cornea be so large as to prevent the dilatation of the pupil from benefiting vision, Mr. A. has recourse to an operation different from any he has yet described. His words are,

"I fix the eye with the concave speculum, and then enter my closed pupil-knife, through the cornea about a line anterior to the iris, and make the opening somewhat longer than the width of the instrument. Through this the aqueous humour will make its escape, and be followed by part of the iris. If the iris does not protrude sufficiently, from the pressure of the speculum, to extend the edge of the natural pupil as far as the puncture in the cornea, I lay hold of it with a pair of small forceps, and gently pull it out, using great caution not to employ so much force as to rupture it. Having, in this manner, dragged the outer edge of the pupil a little through the puncture, I do not cut off the protruded part, but suffer it to remain strangulated, which prevents it from again returning within the cavity of the eye. The puncture heals, and it includes the protruded part of the iris, which is shortly removed by a very weak solution of argentum nitratum, dropped into the eye two or three times a day. Care should be taken to make the incision no longer than just sufficient for the iris to protrude, in order to avoid the opacity which would be likely to ensue were it of a larger size, and also to prevent the iris receding when the cornea is again distended by the regeneration of the aqueous humour. In one instance, when there even existed a slight adhesion of the iris to the cornea, I was enabled successfully to accomplish this operation, after having first liberated the iris from its attachment."

(To be continued.)

INTELLIGENCE.

MASSACHUSETTS MEDICAL SOCIETY.

The annual meeting of this Society, held on the 2d day of June, was more fully attended than any one previous; upwards of an hundred members being present. The Society, having had before them the proceedings of their counsellors and other officers, during the year past, re-elected the counsellors, and proceeded to the arrangement of such bye-laws as required their attention. A dissertation was then delivered by Dr. Prescott of Newburyport, on the natural history and medicinal properties of *Ergot*; in which he gave an account of the manner in which this substance grows, a history of its former use as an article of the materia medica, and the results of late observations, and of the author's experiments relative to it. From his trials of the medicine, it appears, that when given during parturition, it powerfully assists the expulsion of the fœtus; and that it prevents flooding after labour. When administered to a male subject, in larger dose than is necessary for the effects already mentioned, it produced no remarkable consequences; and when given to females, with suppression of the catamenia, it also appears inert. Dr. P. controverted the opinion advanced in a former number of this Journal, that *Ergot* sometimes proves destructive to the fœtus, by the unremitted contractions of the uterus, which it causes, and the consequent long continued pressure on the head of the child. He admitted that a considerable number of children were still-born, in cases where it had been employed, but attributed the death of these children to the lingering nature of the labours, in which the medicine is commonly used. This clear and satisfactory account of the properties of the substance, was concluded by some remarks on its peculiar disposition to affect the uterine fibre, when elongated in pregnancy.

The Society, among other proceedings, determined that the section of the bye-laws, which makes it necessary that all candidates for examination and license, who present themselves after the 4th day of June, 1813, must have studied three years with some Fellow of the Society, should be altered so far as not to come into operation till the 4th day of June, 1814.

OFFICERS OF THE SOCIETY.

JOHN WARREN, M. D. *President.*
JOSHUA FISHER, M. D. *V. President.*

Censors.—David Townsend, A. M; Thomas Welsh, M. D; Aaron Dexter, M. D; Josiah Bartlett, M. D; William Spooner, M. D.

Thomas Welsh, M. D. *Corresponding Secretary.*
John C. Warren, M. D. *Recording Secretary.*
John G. Coffin, M. D. *Treasurer.*
John Dixwell, M. D. *Librarian.*

The following gentlemen have become Fellows of the Society, in course, during the year past:—

Nath. Bemis, *Watertown*, M. D.
Jacob Bigelow, *Boston*, M. D.
John B. Brown, *Boston*, A. M.
Asa Bucknam, *Weston*, A. M.
Oliver Dean, *Medway*, A. M.
Dr. Jos. H. Flint, *Petersham.*
Dr. Chand. Flagg, *Marblehead.*
Dr. Wm. Payson, *Foxborough.*
Dr. Jos. O. Osgood, *Amesbury.*
Thomas Sewall, *Ipswich*, M. D.
Dr. Daniel Swan, *Brighton.*
Is. Warren, *Charlestown*, A. M.
T. Wellington, *W. Camb.* M. D.

Physicians admitted by election during the year past, who, having expressed their acceptance, are members of the Society:—

Drs. Moses Baker, *Bridgwater.*
Philip Bryant, do.
R. Champion, jr. *W. Springfield.*
Daniel Collins, *Lenox.*
Jacob Kittridge, *Salem.*
Jotham Moulton, *Buckston.*
Benj. Billings, *Mansfield,*
Jonathan Newell, *Stow.*
Thomas Bucklin, *Hopkinton.*
Anson Bates, *Barre.*
Elliot Beckwith, *Hardwick.*
Charles Proctor, *Westford.*
Joseph Allen, *Buckston.*
Daniel James, *Pittsfield.*

William Stone, *Greenwich.*
Enos Smith, *Ashfield.*
Asa Burbank, *Lanesborough.*
Henry Bagg, *Princeton.*
Seth Fobes, *Oakham.*
Jonathan Page, *Brunswick.*
Ebenezer Poor, *E. Andover.*
Amos Parker, *Bolton.*
William Sheldon, *Springfield.*
Joseph Hewes, *Campden.*

Licentiates to practice during the year past:—

William Stone, *Framingham.*
T. Foster, *Cambridge,* M. D.
Andrew Foster, do. M. D.
R. Kittridge, *Framingham,* A.B.
Nathaniel Swift, *Dorchester.*
David Kellogg, *Framingham.*

Cure for the Stone and Gravel.

Mr. Brande, in a paper printed in the London Philosophical Transactions, recommends magnesia in calculous complaints, as a substance well adapted to prevent the formation of uric acid, and thus arrest the progress of these disorders. Mr. Brande states, that the best method of giving the magnesia, is in plain water or milk, to be taken in the morning early or at mid-day. If the stomach is weak, and this produces uneasy sensations or flatulency, some common bitter, such as gentian, may be added; and if it purges, a little opium should be combined. The dose of magnesia, may be five grains twice or thrice a day to children below ten years of age; fifteen and twenty grains to adults. Common magnesia has been usually employed; but calcined magnesia may be used occasionally.—When a stone is already formed in the bladder, this medicine cannot be expected to diminish it, but merely to prevent its increase.

New London Pharmacopœia.

This work has excited very numerous and apparently well grounded criticisms, both on its formulæ and language. The apparent disposition to differ from the Edinburgh college, is equally curious and unfortunate. When, for example, they found no good reason for changing the terms adopted by the

Edinburgh college, they assumed a different collocation of them; Murias Hydrarygri, they have styled Hydrarygi Murias, &c. In some few instances, the Edinburgh Nomenclature has been improved upon, by shortening the names of the latter pharmacopœia. The formidable length of the names of some common substances has been justly considered an important objection to the Edinburgh Nomenclature; but this difficulty has been more readily remided in practice than could have been supposed. Nobody thinks of writing Oxidum Hydrarygri rubrum per Acidum Nitrosum, but simply, Oxid. Hydrarg. rubr. and the specific names of vegetable substances, though well enough set down in the book, are omitted in prescriptions, as, instead of Pulvis Convolvuli Jalapæ, we write Pulv. Jalapæ, &c.—Our physicians in Massachusetts congratulate themselves, with good cause, that they are delivered from the confusion and difficulty of the language of numerous clashing pharmacopoieas, by the immoveable establishment of the New Edinburgh Nomenclature.

Painful Subcutaneous Tubercle.

In two late numbers of the Edinb. Med. Journal, Mr. Wm. Wood gives an account of the disease to which he has appropriated this name. This tubercle is found in the subcutaneous cellular membrane of different parts of the body, but principally of the extremities. It is generally of the size of a pea, and never larger than a coffee-bean. It is of a firm consistence, apparently quite circumscribed, being situated loosely in the cellular substance, immediately under the integuments, which retain their natural colour and appearance. The tumour is discovered first by the pain it produces, and by passing the finger over the part, for there is generally no sensible tumour on the surface of the skin. The peculiarity of this disease consists in its being the seat of acute excruciating pain, occurring in irregular paroxyms, with intervals of hours, days, and even weeks. This tubercle is completely cured by extirpation with the knife. Cheselden, Camper, Dr. Bisset and Mr. Pearson have noticed this complaint. The latter gentleman supposes the remarkable pain attending the disease to arise from a nerve and vein being included together in the tumour, and that the distention of the latter painfully compresses the former against the tubercle. Mr. Wood, who has described eight cases of the disease, does not admit the explanation of Mr. Pearson to be satisfactory. He considers the disease to be connected with the nervous system in some way not yet ascertained.

Lectures on Midwifery.

Dr. Channing proposes to give a course of lectures on Midwifery, in Boston, the ensuing winter.

Agent for the Vaccine Disease.

The government of the United States have authorized the appointment of an agent to preserve genuine vaccine fluid and furnish it to the citizens of the U. S. To facilitate his communications they have allowed him the immunity of the post office. Dr. James Smith of Baltimore, has been appointed agent, and has issued proposals for supplying the fluid, and determining by inspection of the scab, whether the disease has been genuine.

Moore, the Fasting Woman.

Dr. Henderson, Physician of the Westminster General Dispensatory, has published an account of the famous fasting woman, Ann Moore, in the Scot's Magazine, which very satisfactorily shews, that though this woman was probably capable of supporting an unusual abstinence from food, the story of her subsisting months and years without eating and without evacuations, is an imposition she has practiced on the public, for the purpose of obtaining *a comfortable living.*

Sir Humphry Davy, on the 3d of April, resigned his appointment as Professor in Chemistry in the Royal Institution; and W. T. Brande, Esq. F. R. S. was nominated to supply his place. Sir H. Davy stated, at the time of his resignation, that he was preparing for publication an account of all the proceedings in the Chemical Department of the Institution, which had taken place during the twelve years that he had been entrusted with its direction.

On the formation of Pyrophorus, by John Gorham, M. D.

In the first number of the Annals of Philosophy, Dr. Thompson, the editor, has inserted an extract from a letter of Professor Coxe of Philadelphia, in which it is mentioned, that a few drops of a solution of potass, added to the usual materials of pyrophorus, will greatly increase its susceptibility to spontaneous inflammation, on exposure to the air.

This fact respecting the addition of potass, I ascertained about eighteen months ago. Having made attempts to decompose the alkali by iron turnings, and having failed, as I supposed, from the want of a sufficiently intense heat, it occurred to me that, as pyrophorus probably contains potassium, that metal might be obtained at a comparatively low temperature, by mixing with the iron and potass a quantity of the materials of which that combustible compound is formed. Accordingly about an ounce of the dried powder of alum and sugar, after they had been exposed to heat, was added to one ounce of clean iron filings, and half an ounce of dry caustic potass; this mixture was put into a gun barrel, arranged in the usual way for procuring potassium, and exposed for some time to a temperature approaching to a white heat. The experiment did not succeed, but the result was a very fine pyrophorus. Since that time, in preparing this substance, I have always added to the usual materials a quantity of potass, either caustic or in the form of sub-carbonate, generally in the proportion of about half a drachm of the latter, to one ounce or one ounce and a half of the former. With this addition much caution in the preparation is not necessary, for it has frequently been made in a pistol barrel and at different temperatures varying from a low red heat to a degree little short of a white. I have never been disappointed in pyrophorus formed in this manner, provided it be transferred as soon as practicable, to a small phial and be excluded from the air. Having had occasion lately to exhibit this compound, a quantity was used which had been prepared six months, and its spontaneous combustion when exposed to the air was equally as vivid as at the time of its formation.

June, 1813.

Death of Dr. Rush.

Since the publication of the last number of this Journal, the Medical profession in the United States has been deprived of one of its brightest ornaments by the death of Dr. RUSH. Those, who surmount the difficulties opposed to a successful cultivation of medical literature in this country, are so few in number and undergo so laborious a task, that we can scarcely pay too high honours to the memory of such as advance so far in the improvement of their countrymen, as Dr. Rush. At present, we are not possessed of sufficient materials to give a full and satisfactory account of the life and the labours of this medical philosopher; but we shall not fail to attempt it at a future time.

Dr. Willan, author of the work on Cutaneous Diseases, and Mr. Kirwan, distinguished as a chemist and mineralogist, have lately died in Europe.

TO CORRESPONDENTS.

We regret the necessity we are under of omitting the conclusion of the paper on diseases of the eye, and many other articles from European Journals, prepared for the present number.

A valuable paper, containing "miscellaneous facts and observations" came too late for the present number. Its publication shall be commenced in the next. We have received communications on "Delphinium Ajacis," from Dr. Blanchard; on "Ovarian Dropsy," by Dr. Sewall; on the same subject, from a student of medicine; and further observations on "Ulcerated Uterus," by Dr. Gamage, which shall receive attention.

Reviews of Dr. Bogart's dissertation on "Angina Pectoris" and Dr. Anderson's on "Eupatorium Perfoliatum;" also a translation from "Wenzel on Epilepsy" are necessarily omitted; these, and a review of "Thompson's History of the Royal Society," will be published in the next number.

To some of our Correspondents we must apologize for the unavoidable condensation of their papers.

We recognize with pleasure an increasing spirit of observation and inquiry in the country, and with much satisfaction return our thanks to those who favour us with the result of their researches; at the same time it is necessary to request, that our Correspondents will take some pains to put their remarks in such a fair and legible writing, as will render them useful.

RECENT AMERICAN PUBLICATIONS, AND BOOKS PROPOSED TO BE PUBLISHED.

Medical Papers communicated to the Massachusetts Medical Society. Part III. Vol. II. completing the 2nd Volume. Published by the Society.—This number contains about 300 pages, and the complete volume about 570 pages. Boston.

A view of the Mercurial Practice in Febrile Diseases. By John Warren, M. D. President of the Massachusetts Medical Society and Professor of Anatomy and Surgery in the University of Cambridge. Boston.

The American New Dispensatory. Second edition, considerably enlarged and improved. By James Thacher, M. D. Fellow of the Massachusetts Medical Society, of the American Academy of Arts and Sciences and honorary member of the Georgia Medical Society. Boston.

Inaugural Dissertation on the Eupatorium Perfoliatum. By Andrew Anderson, A. B. New-York.

Inaugural Dissertation on Angina Pectoris. By Henry Bogart, A. B. New-York.

The Literary and Philosophical Repository. A periodical work, conducted by Professor Hall. Middlebury, Vermont.

Annual Address delivered by appointment before the Society for the Promotion of Useful Arts. By Theodoric Romeyne Beck, M. D. Albany.

Memoirs of the Columbian Chemical Society, vol. 1. Philad.

Professor Cullens' system of the Materia Medica, with notes and additions. By Benjamin Smith Barton, M. D. Professor of Botany and Materia Medica in the University of Pennsylvania. Two vols. 8vo. Philadelphia.

The Philosophy of Experimental Chemistry. By J. Cutbush, M. D. Professor of Chemistry at St. John's College. Two vols. 8vo. Philadelphia.

Remarks on the Importance of Inland Navigation from Bosson, by the Middlesex canal and Merrimack river. By John L. Sullivan, A. M. Fellow of the American Academy of Arts and Sciences. Boston.

A. Finley of Philadelphia, has published a Treatise on "Horned Cattle" comprising a description of their symptoms, and the most rational methods of cure founded on long experience. To which are added, receipts for curing the Gripes, Staggers, and Worms in Horses, and an Appendix containing Instructions for the extracting of calves. By J. Downing.

BOOKS PROPOSED.

In the press. A Treatise on the Membranes in General and different Membranes in particular. By Xavier Bichat, Physician of the Hotel Dieu, &c. with an historical notice of the life of the author, by M. Husson. Translated by John G. Coffin, M. D. One vol. 8vo. Boston.

Also. A Dissertation on the Natural History and Medicinal Properties of Ergot, delivered at the annual meeting of the Massachusetts Medical Society in June 1813. By Dr. Oliver Prescott. Boston.

Pharmacopœia Chirurgica. A valuable collection of the most approved surgical formulæ. With notes, &c. From the latest London edition, in one vol. 12mo. Boston.

The Experiments of M. Legallois, noticed in a former number of this Journal, are, we are told, about to be translated in full by Dr. Nancrede of New-York.

Proposals are issued in Baltimore, for publishing a translation of M. Larney's Memoires de Chirurgie Militaire et Campagnes, in three vols. 8vo. from the second French edition.

Bradford and Read, Boston, and A. Finley, Philadelphia, propose publishing, An Introduction to Physiological and Systematical Botany, by James Edward Smith, M. D. F. R. S. &c. &c. President of the Linnæan Society.

Bradford and Read, propose shortly to publish a Treatise on the Blood, Inflammation and Gun shot Wounds, by the late John Hunter.

RECENT BRITISH PUBLICATIONS, &c.

A Treatise on New Philosophical Instruments for various purposes in the Arts and Sciences. By David Brewster, L.L.D. 1 Vol. 8vo.

A Treatise on the Diseases and Organic Lesions of the Heart and Great Vessels. By J. N. Corvissart, M. D. &c. &c. translated from the second edition of the French. By J. H. Hebb. 8vo.

An Appendix to an inquiry into the present state of Medical Surgery. By the late Thomas Kirkland, M. D. In which the removal of obstructions and inflammation in particular instances, which the causes, nature, distinction and cure of Ulcers, are considered. By James Kirkland. 8vo.

A Treatise on the Management of Female Complaints. By Alexander Hamilton, M. D. Edin. seventh edition, revised and enlarged; with hints for the treatment of the principal diseases of Infants and Children. By Dr. James Hamilton, jun. Edin. 8vo.

Synopsis Nosologiæ Methodicæ exhibens Claris. Virorum Sauvagesii, Linnæi, Vogelii, Sagari, Macbridii et Culleni, Systemata Nosologica, ordine systematico planius quam antehac disposita. Auctore Gulielmo Cullen, M. D. Edin. 8vo.

Pharmacopœia Collegii Regii Medicorum Edinburgensis. 18mo.

An Examination of the imposture of Ann Moore, called the fasting woman of Tutbury. By Alex. Henderson, M. D. 8vo.

A Treatise on Febrile Diseases, including Intermitting, Remitting, and continued Fevers; Eruptive Fevers; Inflammations: Hæmorrhagies; and the Profluvia. By A. P. Wilson Philips, M. D. F. R. S. Edin. 2 vols. 8vo.

Outlines of the Anatomy of the Human Body in its sound and diseased state. By Alex. Munro, jun. 3 vols.

Elements of Chrystallography, after the Method of Haüy; with or without series of Geometrical Models, both solid and dissected. By Frederic Accum, operative chemist, with copper plates. 8vo.

A Letter to Sir Francis Milman, bart. M. D. on the Subject of the proposed reform in the condition of the Apothecary and Surgeon-Apothecary, with an Appendix, containing the Correspondence between the General Committee and the three Corporate Medical Bodies. By one of the Committee. 8vo.

Mr. I. Wilson proposes to publish a work on Cutaneous Diseases, with a new and improved arrangement, on principles consonant to modern physiology.

Mr. Francis Gold, member of the Royal College of Surgeons in London, who on his return from Egypt was detained in France by the decree of 1803, and has lately been liberated at the intercession of Dr. Jenner, is at present occupied on the translation of Bichat's work "Sur la vie et la Mort," a treatise containing the principles of physiology now prevailing in the French schools. Med. and Phys. Jour.

ERRATUM. Page 290, the word *Medica* in the 5th line, should be inserted after *Materia*, in the 4th line.

ABSTRACT OF THE BILL OF MORTALITY FOR THE TOWN OF BOSTON,

From the 31st of December, 1811, to the 1st of January, 1813,—agreeably to the returns made to the Health-Office.

				Under 1 yr.			*Fr. 1 to 2.*			*Fr. 2 to 5.*			*Fr.5 to10.*			*Fr.10 to 20.*			*Fr.20 to 30.*			*Fr.30 to40.*			*Fr.40 to50.*			*Fr.50 to60.*			*Fr.60 to70.*			*Fr.70to80.*			*Fr.80to90.*			*Fr.90to100*		
	Males.	*Fem.*	*Tot.*	*M.*	*F.*	*T.*	*M.*	*F.*	*T.*	*M.*	*F.*	*T.*	*M.*	*F.*	*T.*	*M.*	*F.*	*T.*	*M.*	*F.*	*T.*	*M.*	*F.*	*T.*	*M.*	*F.*	*T.*	*M.*	*F.*	*T.*	*M.*	*F.*	*T.*	*M.*	*F.*	*T.*	*M.*	*F.*	*T.*	*M.*	*F.*	*T.*
Jan.	28	35	63	6	5	11	1	1	2	2	0	2	0	0	0	2	0	2	5	9	14	4	5	9	3	8	11	2	3	5	1	0	1	1	3	4	0	0	0	1	1	2
Feb.	24	18	42	5	0	5	2	2	4	1	1	2	0	0	0	2	4	6	3	5	8	3	0	3	3	1	4	1	2	3	0	1	1	2	1	3	2	1	3	0	0	0
Mar.	29	20	49	8	2	10	1	0	1	1	1	2	0	0	0	2	1	3	2	2	4	3	4	7	7	4	11	2	2	4	1	2	3	2	1	3	0	1	1	0	0	0
April,	23	27	50	4	5	9	0	1	1	1	0	1	1	3	4	0	0	0	7	4	11	2	2	4	4	7	11	1	2	3	0	2	2	2	1	3	1	0	1	0	0	0
May,	33	44	77	18	10	28	0	2	2	1	2	3	0	1	1	0	5	5	3	3	6	3	5	8	2	6	8	1	4	5	2	2	4	2	3	5	1	1	2	0	0	0
June,	26	30	56	7	5	12	4	0	4	1	3	4	0	2	2	1	1	2	3	8	11	3	3	6	1	4	5	5	2	7	1	0	1	0	1	1	0	0	0	0	1	1
July,	31	25	56	11	2	13	1	3	4	1	1	2	0	0	0	1	1	2	2	8	10	7	5	12	3	3	6	1	0	1	4	1	5	0	0	0	0	0	0	0	1	1
Aug.	22	24	46	7	3	10	0	2	2	1	1	2	2	0	2	0	4	4	4	3	7	1	5	6	4	5	9	1	1	2	1	0	1	0	0	0	1	0	1	0	0	0
Sept.	26	25	51	13	4	17	0	3	3	1	3	4	0	0	0	1	2	3	3	6	9	0	2	2	3	2	5	2	2	4	2	0	2	1	1	2	0	0	0	0	0	0
Oct.	25	42	67	10	10	20	1	6	7	0	1	1	0	0	0	3	4	7	4	12	16	3	2	5	1	2	3	1	1	2	0	2	2	0	2	2	2	0	2	0	0	0
Nov.	29	35	64	7	3	10	1	5	6	1	3	4	2	6	8	5	2	7	3	7	10	5	3	8	2	2	4	0	1	1	2	2	4	0	1	1	1	0	1	0	0	0
Dec.	28	32	60	13	10	23	0	1	1	1	1	2	2	1	3	3	3	6	2	3	5	2	6	8	2	1	3	1	1	2	1	2	3	1	1	2	0	0	0	0	2	2
	324	357	681.	109.	59.	168	11	26	37	12	17	29	7	13	20	20	27	47	41.	70.	111	36	42	78	35	45	80	18	21	39	15	14	29	11	15	26	8	3	11	1	5	6
	1	0	1	Small Pox.																																						

☞ Total, 682.

The deaths above were caused by diseases and Casualties as follows, viz.

Angina Pectoris,	1	Inflammation of the brain,	1	Cholic,	2	Locked Jaw,	1	Drowned,	10	Quinsy,	17	Fever, Typhus	22	Vomica,	1
Apoplexy,	15			Consumption,	190	Mortification,	4	Dysentery,	2	Still-Born,	48	„ Pulmonic,	40	Diseases not mentioned,	32
Asthma,	2	Infantile diseases,	133	Convulsions,	12	Nepritis,	1	Dyspepsia or Indigestion,	2	Sudden,	24	„ Putrid,	1		
Burns or Scalds,	2	Insanity,	2	Cramp,	1	Old age,	35			Suffocation,	3	„ Pleurisy,	2	Small Pox at Rainsford's-Island,	1
Casualty,	6	Jaundice,	4	Dropsy,	16	Palsy,	6	Frost,	1	Tabies,	1	„ Bilious,	4		
Cholera Morbus,	2	Intemperance,	12	do. in the head,	6	Psoas abscess,	1	Hæmorrhage,	1	Teething,	10	„ Puerperal	5		

☞ *Boston* lies in 42, 23, 15 N. and 70, 52. 42 W. Long. The Census of 1810, in the month of August, states the number of its inhabitants at 33,250. *From Oct. 22, 1810, to 31st Dec.* 1811, (*one year 3 months*) *the whole number of deaths was* 942—*the average number of deaths during the last year, ending* 1st Jan. 1813, *was, therefore, less, being but* 682.

THE

NEW ENGLAND JOURNAL

OF

MEDICINE AND SURGERY.

Vol. II. OCTOBER, 1813. No. IV.

MISCELLANEOUS FACTS AND OBSERVATIONS.

[Communicated for the New-England Journal, &c.]

1. Of the use of nausea and vomiting in the *mumps* (Cynanche Parotidæa ;) with remarks on the mumps.
2. Of hemlock (conium maculatum) administered in certain cases.
3. Of the propriety of *taking medicines in the manner directed* by those who prescribe them.
4. Of certain *transient swellings* in nervous or dyspeptic patients.
5. Of an *anomalous* swelling.

I. Mr. White, surgeon, in his Journal of a Voyage from England to Botany Bay in New-Holland, writes as follows: "Before we sailed from the Mother-bank (at Portsmouth, in May, 1787) a sporadic disease had appeared among the *marines* and convicts. On its first appearance, it resembled the *mumps*, or swelling of the chops; and as that distemper sometimes terminates in a translation of the inflammation to the testicles; so this complaint, after the swelling and induration of the jaws had subsided, (which usually happened on the sixth or seventh day) never in *one* instance failed to fix on those parts; and *that*, in so very obscure a manner, as not to give way to the treatment generally found effectual in *similar inflammations.*—One of the convicts thus affected, was seized with an intermittent fever. Between the paroxysms I gave him an emetic, which had such a sudden and wonderful effect on this strange complaint, that I was induced to repeat it; and I found it effectual in this, as well as in *all* subsequent cases. As soon as we got to sea, the motion of the ship acted on all those who were affected, (to the number of seventeen) in a most surprizing and extraordinary manner. Indeed it was so sudden, that it was like a *placebo*. I could never account, with any satisfaction to myself, for the origin of this uncommon disease, though much acquainted with those incident to seamen; nor did I ever see or hear of any that resembled it. The most steady and prudent of the *mariners*, even those who had their wives on board, were equally affected with those who led more irregular lives."—Mr. White, after having informed his readers, that the disease could not be owing to verdigrise from the coppers used for cooking; adds, that the smallest trace of it was not to be seen "after being four or five days *at sea*";* for at sea, we must recollect, the patients had an opportunity of being more or less *sea-sick*.

Notwithstanding the conclusion of Mr. White, that this disease was not the mumps, though at first appearing to resemble it; we may venture to suppose the contrary. It was epidemic in a part of the crew; it translated itself from the jaws to the testicles; it lasted six or seven days; and it was cured by nausea and vomiting, like the mumps (for according to Hippocrates,) the remedy indicates the disease.

The first practitioner who appears to have thought to any purpose on the subject of the *mumps*, is the late Dr. Hamilton of Lynn-Regis in England; though in his own account of it he quotes Hippocrates, Mr. Gooch, Mr. Tissot, and Dr. Russel,* as having noticed it before he published his own remarks. Dr. Hamilton having observed in the severe forms in which the disease presented itself to him in 1758, that when *nature* performed the cure, the swelling of the salivary glands subsided by means of a *discharge from the ears and of a sweating from the surface of the tumor;* applied, in the first instance, flannels to the part; and afterwards he blistered (as early as possible) the *whole* extent of the swelling. If the disease transferred itself to the testicles, he for a new reason blistered the part where the disease had *first* appeared, in order to recal it to a safer place. And in case the disease should threaten to pass from the testicle to the brain, he intimates, that a blister or a blistering cataplasm ought to be laid over the *whole* scrotum. Respecting this last fluctuation (namely from the testicle to the brain) he asks, whether these affections of the head arise here "from a *tumefaction of the brain*, taking place in the instant of the sudden diminution of the tumor of the testes; as happens (he says) to the *testicles*, when the salivary glands suddenly subside?"—Dr. Hamilton avoided bleeding, unless in extraordinary cases; and he never employed purges. The slighter cases were treated with no other medicines, than *spiritus mindereri* and other diaphoretics; but when there was "a low running quick pulse," and a restlessness or anxiety, he gave nervous cordials and sudorifics, (as camphor, volatile alkalis, antimonial wine, decoction of snake root, &c. with opium to abate the restlessness.) The patient was kept warm in bed; but with a supply of cool fresh air for breathing; and a bag was provided to support the testicle, when found swollen. Several testicles became wasted and wholly destroyed after their enlargement. Only one *suppuration* of any kind occurred; the swelling which produced it, stretching from the cheek to the shoulder: but after yielding a quart of matter, it healed rapidly in the common manner. The mumps seemed contagious under favoring circumstances; but it did not appear twice in his experience in the same individual.*—Among *males*, it was chiefly confined to the period from puberty to thirty; very few boys being affected, and those mildly. On the other hand, among *females*, none sickened *above* ten years old; and these cases were few and mild, and without any affection of the breasts or uterus, &c.† The disease remained epidemic in the town of Lynn Regis during the spring and autumn for several years; but mostly in the spring; and scattered cases were to be met with many years after the epidemical appearance of it had ceased.‡

---

* See Journal of a Voyage to New South Wales, by John White, Esq. Surgeon General to the Settlement. London Ed. 1790, p. 22.

---

* He refers here to this author's work on the Diseases of the Glands.

The account given by this judicious practitioner is curious, but so slow is the progress of the human mind, that it did not occur to him that it might be quite as useful to excite secretion and *absorption* by means of emetics, as excretion and *exhalation* by means of diaphoretics and blisters; nor did he seem to recollect that puking and nausea would aid insensible perspiration. Perhaps next to bleeding, and stimulants, few of the common expedients used by medical men, introduce such rapid changes in diseases of the human frame, as vomiting.—Whether it was accident, or reasoning, however, which led succeeding practitioners to the adoption of emetics in the case of *mumps*, seems not to have been ascertained. It is not to Mr. White, however, that we must ascribe the merit of applying this remedy to our disease; for he refused the name of *mumps* to that disease, in which in his hands it was successful. Happily we are now in possession both of emetics and blisters, as useful applications in this malady, in addition to diaphoretics. Some have attributed advantages to the outward application of sea salt to the face; but these pretensions require to be better supported, before we run the hazard of delay by making trial of it in a disease which is commonly painful, and sometimes dangerous.

---

* Some think that it may occur twice; but not on the same side of the face.

† It may be queried whether a fondness for analogy has not led to a more frequent mention of the affection of the mammæ in this disease than experience warrants.

‡ See Transactions of the Royal Society of Edinburgh, vol. 2, part 2, p. 59.

We shall only further observe, that the disease of the mumps seems *not to have inflammation* for its primary and fundamental characteristic; but to be owing to the suppression of certain excretions, secretions, or absorptions.—But what state of things produces the secret relation between the salivary glands, the testicles, and the brain, so as to admit of the swelling running backwards and forwards between them, in the order just mentioned; is matter for other discussion. Suffice it at present to intimate, that the brain seems to be much related to many glandular actions, and in particular to many secretions; either as a contributing cause, or else as being influenced by their operations and their accidents.

II. The subject next in place to be discussed is, the application of *hemlock or cicuta* (that is the *conium maculatum* of Linneus) to one or two diseases, for which it seems difficult to find a name.

The history of cicuta resembles that of some other articles of the materia medica. Novelty at first carried the rage for it beyond due bounds; neglect for a time followed this extravagance; and experience now is slowly but surely providing for it its proper station, and even discovering in it uses of which its first patrons had no suspicion.

Dr. John Fothergill, (of England) employed hemlock to some advantage in the *tic dolorosus* (tic douloureux) in moderate doses:—But Dr. Jackson of Boston by means of larger doses, has produced more immediate relief in this distressing disease. Hemlock, if under proper management, is (as Dr. Storck truly tells us) in general an "innocent article:" In other words, except where it produces inconvenience *soon after taking it*, it may according to our present experience, be pushed to great lengths. Since Dr. Storck therefore had given it to the amount of two, three, and four drams, daily, for several weeks, after due preparation; so Dr. Jackson, having accustomed his patient to it for about a fortnight, by a gradual increase of the dose, till she could take forty grains at a time; at last, gave to the amount of five drams in a single day, in the case of a lady of the age of twenty-five years.* By the *gradual* exhibition of many articles, their doses may be suited both to the *patient* and the *disease;* there being (for example) various states of the system, (particularly the spasmodic) where opium and other stimulants may be given in enormous doses, so long as those states of the system continue. Digitalis and hemlock seem to come under the same rules; as also bleeding. But the cases here in general ought to be such as are urgent; and the monitory symptoms must always be attended to.—Dr. Jackson says as to hemlock, that its sensible effects occur within fifteen or twenty minutes after the dose is swallowed. He adds, that even when it intoxicates, no very unpleasant effects follow: and it was to this point that he pressed it, by giving doses of thirty or forty grains every twenty-five or thirty minutes, (after the above mentioned preparation.)

We have hitherto been speaking of hemlock given at its *maximum.* But it will often succeed in much smaller doses in various diseases, of which the following are instances: 1. A female, between forty and fifty, had been affected for many months by a swelling of the whole of the upper part of the right arm, attended with an inflamed surface, limited and difficult motions, and great pain. She took less than a grain three times daily, and was much relieved. Leaving off her medicine, she relapsed a little; but on resuming it, her relief was still more perfect: so that she has not thought it necessary to apply for more medicine for this disease. 2. A man in his sixtieth year had severe pains in his left thigh and leg; the thigh seemed even wasted towards the hip; and there was an eruption upon the leg. The patient in short could only move by the help of a crutch and a stick. Hemlock was given as moderately as in the preceding case; and with like success. The cure indeed stopped for a time, for want of a due supply of medicine; but it made new progress, as soon as the medicine was again exhibited: shewing by this suspension, as in the former instance, that the recovery had proceeded from the hemlock.

---

* See the New England Journal for Medicine and Surgery, No. 6.

This patient had been ill for about eight months; but as his cure advanced, he first laid aside his crutch, then his stick, then carried burthens, and ended by being accepted as a soldier in the service of the United States, marching away as readily and as easily to all appearance as his neighbours.

It may be asked, what rule led to the use of the cicuta in these two cases? The answer is, that as the diseases were marked by no name and associated with no remedy, hemlock was resorted to merely because it had often been useful in irregular cases, and especially in such as were attended with pain. Besides, Storck (the first introducer of hemlock) says, that it is beneficial in certain "œdematous tumors," and in "tumors arising from obstructions"; and also in "scabby, gouty, and rheumatic cases";* and likewise in "wasting of the parts," in "pains of the limbs of long standing," in "tumors of the limbs, and in giving flexibility and power of motion to the parts," and in "cariosity of the bones."—Dr. Storck's authority has often been questioned; but Van Swieten professed himself to have been an eye witness to some of the most remarkable of his cures; and since his day, the medical public has gradually adopted his remedy, sometimes for his objects, and sometimes for their own.

Hemlock admits then of a variety of applications. More of these were known in the time of Storck, than some perhaps have suspected: and if Storck, for example, does not mention the propriety of employing it for the *tic dolorosus*, which as a regular disease he probably was not acquainted with; he at least relates its uses in certain bilious cases. We have admitted that hemlock is an innocent medicine in prudent hands, because it may be *administered gradually*; and it is *upon this basis* that the employment of it may probably be much extended. If it often disappoints expectation, it will also often gratify it; and where it does not effect a cure, it will often create ease. But the experimenter is warned before hand, that as there are two doses for laudanum and other articles, the same may be said of cicuta; and the smaller dose is commonly the best; though painful or acute cases may often require it to be exhibited upon its largest scale.

---

* This particular fact Storck relates on the report of others.

It would be a meritorious work not only to methodize all which has been said of hemlock by Dr. Storck, Dr. John Fothergill, and others in Europe; and by Dr. Fisher and Dr. Jackson in the United States; but to speak a little of its *mode of operation.* At present, we seem in as much uncertainty as to some of its principles of action, as we are as to the nature of some of the diseases to which it has been applied. One of its effects seems to be that of promoting insensible perspiration; and in various instances also it affects the urine: but its most prominent operation when pushed to excess, appears to be upon the brain or nervous system, and the stomach; since it then creates giddiness and lassitude, with nausea; (the latter symptom probably being only secondary.) *Ubi vis, ibi virtus*, (that is, all power over the human frame may receive a right direction) has been said of much less innocent articles, than hemlock; and the greatest present source of difficulty with hemlock seems to be, that of being furnished with a proper preparation of the proper plant, after we have ascertained that it is right to employ it in a given case. We may say farther as to the administration of it, that though its more *active* effects may be made to manifest themselves (according to Dr. Jackson) in fifteen or twenty minutes; yet its *ordinary curative* operations are commonly slow. Hence it is that cicuta is only in general exhibited in chronic (that is in slow) diseases, or in diseases which are stationary; and that if we employ it in acute (that is in rapid) diseases, we shall commonly have to call for its *intoxicating* or more active powers. But this will be a new case to treat; for Dr. Jackson used cicuta in the *paroxysm* of a *chronic* disease; and this is very different from an acute disease, which has commonly a delicate *crisis* at issue. We may repeat, therefore, that before we make a violent effort, we must have good evidence *that we are upon a right plan;* unless the case be of a desperate nature and void of other resources.

Hemlock has often been prescribed for cancer, both internally and externally; and has frequently failed. But there are many cases of cancer where both the case and the patient refuse the knife; and in a variety of these, if hemlock has not produced a cure, it has at least lessened pain and offensive odours. Those who doubt this, will do well to define cancer, as it is seen in different patients and in *different parts of the human body;* for it will then perhaps be perceived that several diseases have been confounded under a common name; and that some of the diseases thus confounded, may be alleviated, if not cured, by cicuta. Scrofula is one of these diseases; and this is one in which hemlock, especially if given in company with other medicines, has in various instances been attended with success.—But we return to Storck; who affirms, that hemlock is neither "injurious to infants, nor to children who are older; to middle-aged or old men; to decrepid people; to the fœtus in the womb; to the rich; nor to the poor"; and he adds, that there are few constitutions which cannot admit of its use. He likewise says, that it often ends in a cure, where for a long time it had given little or no encouragement; and to increase confidence in perseverance, he declares that it may be safely taken for one or more years. Lastly, he tells us, that *in general,* it does not require a strict regimen to make it useful; though it *frequently calls for the assistance of other remedies,* before it can accomplish its object.

Hemlock is given in the form of spirituous tincture,* watery decoction, or thick and "almost pulpy" extract, for *internal* use. *Externally,* it is employed in the shape of powder, poultices, fomentations, and plasters; though Dr. Cullen conceives the plasters to have little efficacy. All the parts of the plant in general, are employed excepting the root; and though some say that the plant should only be gathered when it has a strong smell and is in *flower,* yet Storck affirms, that it is to be gathered before the flowers are blown. Storck also directs all extracts, &c. to be made while the plant is fresh.—The *seeds* of the plant are said to produce more giddiness, than the leaves; which perhaps formed one of the reasons why Storck avoided the use of the flowers. The *root* of the plant, when fresh, contains a milk, which is acrid and bitter to the taste; and which affects the tongue very considerably; though the juice of lemons will remove the bad effects from the tongue, where the dose of the fresh root has been very slender. When dried, powdered, and mixed up with the mucilage of gum tragacanth, the root becomes less noxious; but the root, as we are informed by Storck himself, is still to be used with considerable circumspection.—Storck says, that his extract from the plant yielded a very disagreeable smell, like that produced by common mice; which is a description of it sufficiently characteristic.*—Linneus (in his Species Plantorum) calls the plant *conium semiribus striatis.*—As the virtues of the same plant vary under different management, it has been properly recommended to try the strength of each parcel of the different preparations of it, before large doses are given. Dr. Storck does not trouble himself always to state his doses; giving as his reason, that he "almost always began with the smallest quantity; and rose *gradually* from thence, till he perceived some good effect; and then rested there, without any farther increase." This rule seems *safe;* but it does not allow to the medicine the best chance of success, in all instances; since it is sometimes in extreme cases to be taken in extreme doses, in order to obtain its full advantages.

---

* Dr. Jackson tells us, that the tincture of hemlock is prepared like the tincture of purple foxglove; and that 25 drops have occasioned dizziness.

For other particulars, the authors above referred to and the different pharmacopœias and dispensatories, must be consulted. As to Storck, he wrote at least three pieces on the subject of hemlock; namely, two Essays and a Supplement; which were successively translated into English; and published for Nourse in London, in 1760, 1761, and 1762. Perhaps he is the author of other information, respecting cicuta, especially in reply to the attacks of De Haen and others; but in the above tracts will be found various particulars communicated to him by other practitioners. No short extract can give a sufficient idea of the whole of these works; nor is any part of them to be read to the neglect of the rest, as the author's ideas became successively developed in proportion to his experience and his correspondence.*

---

* Dr. Jackson informs us, that Mr. Bartlett, druggist of Boston, prepares the inspissated juice in a proper and efficacious manner.

III. A few examples will shew the propriety of taking medicines in the manner directed by those prescribing them.

Our *first* illustration of the rule regards cicuta; and what will here be said of cicuta must be considered as a sequel to the preceding article.

Most practitioners give cicuta *without any accompaniment.* Not so Dr. Storck; for in his cases *(which were usually chronic,)* he directed a basin of fluid to follow each dose of it; as tea, mutton broth, rennet-whey strained from its curd, milk, milk and water, barley-water, or else a decoction of ground-ivy, or of scabious, male-speedwell, root of burdock, elder flowers, &c. But it is remarkable, that preparations of milk (as whey, &c.) were sometimes prescribed by Storck in such large quantities, that they seem to have made the most important part of his prescription, forming in effect a new diet; and we may add, that cicuta mixes so well with milk, that the two articles may safely be boiled together. But besides these bulky associates to the cicuta, Dr. Storck frequently joined to it other medicines as essential to its success; particularly occasional purges and sometimes emetics, and likewise Peruvian bark, and also (in order to lessen pain) opium and paregoric elixir. Sometimes likewise he took away blood; for he affirmed that the blood was in no degree impoverished by cicuta; which indeed seems proved by its favouring the formation of rich pus. But what Storck most frequently connected with cicuta, seems to have been first, *whey*, which he gave in very large quantities; and next, purges and even emetics; the two last articles in particular obtaining credit with him, from the persuasion that after the use of a medicine which had no sensible operation (namely, cicuta,) it was necessary to discharge the "discussed matter" by evacuants. Doubtless Dr. Storck's general experience might readily have encouraged him in this practice; since (whatever be the cause of it) it is often seen that a cure which has for a time stood still, and even been in danger of a relapse, has again been made to advance by the use of a moderate purge or a moderate emetic; and this, even in acute diseases. It was formerly the fashion also, and often a wise one, to purge after various acute diseases, and especially if of the eruptive kind.

---

* What Dr. Cullen says of cicuta, in his treatise on the materia medica, deserves attention, as being the result both of observation and candor. "I am disposed to think (says Dr. Cullen) that the worthy Baron Storck, from a partiality to his own discovery, and from much information given in complaisance and adulation to the rank he holds, has represented the virtues of hemlock as much greater than they ever were, or will be found to be."

The ground then of our first illustration consists in this: that in many cases where we are directed to employ cicuta, we are yet directed not to rely upon cicuta alone; for Dr. Storck, after prescribing it both internally and externally, often insisted upon adding other articles to it *according to necessity*. Whey in particular was in high esteem with him; and if it be true that cicuta is serviceable in any degree, by favouring perspiration, whey may have been useful on the same principle; or else by its tendency to increase the urine under proper circumstances. Hence it will appear that none ought to undervalue cicuta, *who have not tried it as Storck tried it.* They might as well discredit the powers of sudorifics, diaphoretics, and diuretics, if given without the aid of proper diluting substances;* as object to cicuta, when used without a suitable diluent.

[*To be continued.*]

---

* See among the Experimental Essays by Dr. William Alexander, (second edition, 1770, London, p. 149 and 160) the Essay on Diuretics and Sudorifics, with his curious experiments on Sudorifics.

COROLLARIES FROM A TREATISE ON THE

CEREBELLUM AND DIFFERENT PARTS OF THE BRAIN IN EPILEPTICS.

BY PROFESSOR WENZEL AND HIS BROTHER.

[Translated for the New England Journal of Medicine, &c.]

If in closing this collection of observations, I allow myself to present some general hints, I desire they may be considered only as questions. I do not pretend to give them as incontrovertible principles in the investigation of epilepsy.

The observations which precede, perhaps, will give to some of my remarks the rare merit of entire certainty. Some of them without doubt will induce us to restrict ourselves a little more in the employment of remedies, and to try a more simple, and of course a more perfect practice ; the others will be perhaps of some utility in silencing the complaints which arise in consequence of the insufficiency of anatomy to elucidate the causes of the disease.

I have made these remarks because they appear to me to be true, without pretending to offer them as rules of practice. I shall receive with gratitude objections and ingenious criticisms, brought against my conjectures.

I shall now consider successively all the parts of the cranium, of which the author has thought it important to examine the lesions, and shall omit all those which are not directly in point.

1. The body of the base of the cranium appears in a physiological view, and more particularly in a pathological one, to merit careful research, with a view to know the state of the cerebellum.

2. There are in this part of the bone certain changes which ought to be considered as pathological signs, and which appear to have an essential influence on the cerebellum.

3. These changes consist either in malconformation of insulated parts, or in defect of parts in connection with them. Or the whole of the base of the cranium is affected by those malconformations. All these different changes may be of great importance with regard to the cerebellum.

4. It is perhaps in this deformity of the base of the cranium, which presses on the cerebellum, that the seat and the cause of epilepsy are found.

5. The effusion of lymph between the cranium and the dura mater, and between the folds of this membrane, occurs only in by far the smaller number of cases in which the cerebellum presents these morbid appearances.

6. All the changes in the convolutions of the brain, even those which have been most uniformly remarked, do not appear under any view to be necessary causes of epilepsy.

7. The softness or excessive hardness of the brain, the changes in the colour of the substances which compose it, cannot any longer be considered as causes of the disease.

8. We can say as much of the collection of water in the lateral ventricles, and if it be found in the bodies of epileptics, we must examine with care whether it is not rather the consequence of severe and reiterated attacks, especially in young subjects.

9. The changes which we see in the *corpora striata*, the *thalami nervorum opticorum*, and the *tubercula quadragemina* are alike accidental, and foreign to the causes of idiopathic epilepsy.

10. The brain at least in the greatest proportion of cases does not exhibit any change, which can be considered as an universal cause of idiopathic epilepsy.

11. The morbid state of any part of the brain, appears to be rather the consequence than the cause of the general or partial convulsions. On the contrary, idiopathic epilepsy seems to have as a constant principle a morbid affection of one and always the same part.

12. The disproportion between the pineal gland and the cerebellum, and which manifests itself principally in the orga-

bid lesions of these two parts, is a point well established according to the observations of the author.

13. It is uncertain if the morbid lesions which are discovered in the pineal gland of epileptics, are the cause or the effect of the diseases of the cerebellum; the last hypothesis is the most probable.

14. The circumstance that the pineal gland, and the cerebellum, are sometimes affected together, sometimes separately, depends perhaps more or less on the strength and energy of the cause which acts at the same time on these organs.

15. The cerebellum has been found affected in all epileptics.

16. There has almost always been discovered an effusion of lymph more or less hard at the point where the two lobes of the cerebellum join.

17. When this effusion, and the change which results from it have not taken place, there is found a lesion of the superior surface of this part.

18. The cerebellum has been diseased, when all the other parts of the brain, the pineal gland excepted, has not discovered any sign of disease.

19. The most trifling changes of this part, not remarked until now, appears to have the most serious effect upon the animal economy.

20. The cerebellum appears to be in the human body, a part more interesting than is commonly imagined.

21. It is probable, and I may say certain, that it is an engorgement of blood produced by an irritation, or an inflammatory congestion which occasions *that collection of lymph in the brain* which we have mentioned.

22. According to the observations we have made on other parts of the bodies of animals where similar effusions are discovered, it is certain that this fluid when it is not absorbed, undergoes by degrees all those changes which we have always remarked in similar effusions. These offer the same results that have been found in the cerebellum of epileptics.

23. Will it be granted upon the whole, that these morbid appearances observed in the interior of the cerebellum are the cause of epilepsy? or rather only a particular class of them?

24. Will it be admitted that the epileptic attacks are the lightest, most rare, and most curable in those cases where the morbid affections of the cerebellum are in a less degree, as in the case where there has been no effusion of lymph, or where it has been taken up by the absorbent vessels?

25. If we consider a state near to inflammation, or a real inflammation of the cerebellum and of the neighboring parts, and the consequences of this inflammation as a cause of idiopathic epilepsy, of what efficacy are verdigrise, galls, ether, ivy, anise, antimony, assafœtida, arsenic, orange leaves, matlincon, oil of box tree, hazel tree, camphor, copper, castor, cinnibar, digitalis purpurea, glands of oaks, aromatic plaisters to the head, henbane, bullock's gall, benzoin, iron, cinnamon, Venice soap, mercury, dragon's wort, tin, white vitriol, musk, figs, opium, phosphorus, hellebore, spiritus cornu cervi, gratiola, sulphur, hyssop, wood lice, flowers of zinc, rhubarb, realgar, St. Ignatius' bean, sweet marjorum, yellow amber, mutton cutlets, common salt, oil of anise, wine of rue, castration, and the butter of antimony? I ask of what benefit were so many other ridiculous remedies, which have been recommended, such as the hoofs and horns of the elk, amulets, the flesh of the wolf, the gall of the tortoise, pulverized human teeth, a piece of silver money swallowed, the bones of the head of a horse, dog's gall, the brain of a quail rubbed on the face, the brain of a man and of a camel, a piece of the skin of a wolf, the liver of an otter, the blood of a wolf, the gall of a bear, the horn and hoof of an ass, the ashes of the mole and rabbit, the heart of the hare or the elephant, the liver of the frog, powdered placenta, the testicles of the fox, and of the ram, powdered mice, human blood, and particularly of a martyr, human excrement, the testicles of an ass, the fat of a hare, swines snout, &c. &c. &c.?

26. Is not the inconsiderate use of these remedies, some of which may appear reasonable, but others extravagant, equally dangerous?

27. Do not incipient epilepsies, demand above all other remedies, those which have been recommended by the most respectable physicians, and which are termed antiphlogistic, particularly local and general blood-letting?

28. Are not irritating remedies dangerous, at least, when the disease begins to discover itself. Do not terrible inconveniences result from them?

29. What can be expected from irritating applications to the occiput, or to the surrounding parts?

30. What can be expected in this disease when inveterate and obstinate, from cauterising the head or neighbouring parts which Haen recommended, and Pouteau has again brought into vogue, and which Mandan employed with success? There is no need of repeating, that we do not treat in this place of cauterising the bones of the cranium which Haen practiced, and at first Pouteau himself, but of the integuments of the head only.

31. Should not the treatment of epilepsy, besides an examination the most exact, of the nature of all the attacks since their first appearance, be preceded by serious considerations of the age, natural constitution, and the character of all the preceding diseases of the subject?

32. Are there no epilepsies susceptible of cure, but those which have for their origin the morbid affections of other parts of the body, whilst those which have their cause in the lesion of the cerebellum are perhaps incurable?

33. Does not constant and well authenticated experience teach us, at what period of the disease the means of our art may be best employed, and at what period the curative means may be more injurious than useful, and at the same time hazardous to the life of the patient?

34. Does not an ill judged and wrong treatment of epilepsy in many cases render the disease incurable?

35. Will it not be advantageous to reject all those remedies which superficial reflection, and uncertain experience suggest, at what period will it be best for the patient to do nothing, from the fear of hazarding too much?

36. It is a dangerous habit, which a great many presumptuous physicians have adopted, of calling those, nervous diseases, which they were unable to cure. The subject of epilepsy should not be left in so much uncertainty, for it well merits the trouble of being examined anew, with serious attention.

37. It will be a happy approximation towards improvement, if we cease to content ourselves with the first appearances which discover themselves after death, in dead bodies, if we constantly oblige ourselves to rely on authenticated facts, and substitute sound reasoning for the accumulated experience of quacks.

38. In what class shall epilepsy be arranged, in consequence of researches pursued in this manner?

Those alone, in my opinion, will resolve this problem, who struck by the observations offered in this work, convinced of their truth, and having made them their own by their experience, instead of fabricating a vain system, shall take pleasure in interrogating nature, and interrogating her frequently. They will be those, who will not content themselves with half observations, who will not oblige themselves to prescribe a remedy, until they have carefully examined the nature of the disease; who, in following the progress of disease shall take for their model the conduct of great physicians, who shall do that which Wichmann has ordered in his treatise on diagnostics, and that which Walstein prescribed before him, for the examination into the nature of the diseases of animals. These are examples well worthy of imitation.

If the horror of the disease of which we have spoken be not sufficient to engage physicians to make serious and repeated observations upon the nature and history of epilepsy, they need only cast a glance on the uncertainty and contrariety of the curative means that are opposed to it.

I do not here speak to those physicians who have forever theories in their mouths, and who yield themselves to the most blamable empiricism, who make their reputation consist in a continual change of treatment, a change which they attribute to the improvement of the art, notwithstanding it reflects but little honour on their science or their skill. I address myself to those who endeavour to find relations between practical treatment and medical science; who attach themselves to the most certain data; who do not confound a vain scientific jargon with the plain language of truth; who despise the pedantic ostentation of technical terms, because there are better opportunities to employ them; who recollect that physicians as well as surgeons ought to be very sparing of their prescriptions as well as of the use of their instruments, because medicines and surgical operations ought only to be the result of an enlightened experience; who recollect and avow the imbecility of art, when not sufficiently directed by experience; who do not boast of the extent of their knowledge, when every thing announces how limited it is.

Such men will be able to throw light on that part of the science which is yet covered with darkness. The wise will admire them. The skilful physician proceeds with a steady step in the road of truth, and becomes really useful, while the half learned excites pity by his ignorance, of which in every instance he affords new proof.

The path which conducts to truth, is not so obscure as we may believe; it is only difficult, and therefore it is that all the world cannot find it.

ON THE USE OF

THE CARBONATE OF IRON IN SOME DISEASES OF THE UTERUS.

BY WM. GAMAGE, JUN. M. D.

MESSRS. EDITORS,

SINCE you favoured me with the insertion, in your useful Journal, of my communication on the use of the carbonate of iron for the ulcerated uterus, I have had several opportunities of observing the effect of that medicine in other cases of disease of that organ. I send you the most distinctly marked.

Case 1st.

1812, May 5th. Mrs. B. complained to me, that she had had some disease of the uterus ever since the birth of her last child, which was nearly four years old, and that during the last year she had been seriously afflicted, and most of the time unable to do her family work. She had applied for medical assistance to some person in the country, was told she had a cancer, and took many medicines, but with very little and only temporary benefit. She was weak and emaciated. Her most distressing symptoms were frequent head-ache, loss of appetite, great weakness in the small of her back, soreness in the hypogastrium, shooting pains low in the pelvis, and bearing down pains, if she attempted to walk; frequent discharges of blood, and sometimes of dark coloured fœtid matter per vaginam. By examination, I ascertained, that the os uteri was hard and uneven, much enlarged and pushed forward. The degree of enlargement of the body I could not determine. The carbonate of iron was prescribed in doses of half a drachm thrice in a day. In eight days she had consumed two ounces, taking a larger dose, than at first directed; she was essentially better, her pains very much abated, and the discharge of blood per vaginam had nearly ceased. When she had taken four ounces, she could walk without difficulty and was rapidly regaining her strength. She continued the medicine irregularly through the summer, and entirely regained her health.

Case 2d.

1812, May 20th. Mrs. L. the subject of the following case was about forty years old, and the mother of several children, the youngest of which was between four and five years. Her health for many months had been bad, and I had occasionally directed medicine for her on account of head-ache, indigestion, and what she called rheumatic pains. Those symptoms, which would at once have discovered her real complaint, she had studiously concealed, thinking they were only the effects of her particular age, and that they would soon subside. She became at this time seriously ill, and unable to pursue her daily labour. She had head-ache and sickness at the stomach after eating; great weakness in the small of her back, and a constant gnawing pain about the middle of the sacrum; soreness in the lower part of the abdomen, and when she attempted to walk, the most excruciating, *bearing down* pains, and sense of weight. For the year past her catamenia had been very frequent, and accompanied with great pain; she had had a copious and uninterrupted leucorrhœal discharge; her lower extremities were frequently swollen, and the necessity to evacuate water often occurred.

I found the os uteri much thickened, very hard and pushed forward; the body appeared to be very large and to rest on the sacrum; and from the circumstances of the gnawing pain at this place, the pain caused by the evacuations per rectum, and the inability to retain the water for any length of time, I conjectured, that the uterus occupied so large a proportion of the cavity of the pelvis, as to compress the bladder and rectum.

I prescribed the carbonate of iron in this case without the least hope of relieving my patient. She took one drachm and a half a day without inconvenience, and to my surprise in a week her distress was much alleviated. She continued to take the medicine in this way without interruption for six weeks, with evident advantage; but on account of its acting as a cathartic, she was obliged to desist. In the mean time she took the aromatic sulphuric acid and opium; but being convinced, that the carbonate of iron gave most relief, at the end of a week she recommenced taking it. She was, however, often obliged to omit it, as its cathartic effect could not easily be checked, even by opium. In this way it was used with resolution till Sept. 21st, when having become so disgusting, as to cause vomiting, it was laid aside. She had, however, been for some time free from all the distressing symptoms, except the gnawing pain in the back, and the inability to walk.

After resting a few days, she commenced taking the submuriate of mercury, in small doses with cicuta, and continued it, till her mouth was slightly affected, when she took cicuta alone in doses of five grains three times a day. No other advantage appeared to be derived from this plan, than removing the irritability of the stomach and bowels. Her disease, she complained grew worse, and she had a fœtid discharge per vaginam. I directed, Oct. 26th, the tincture of the muriate of iron in doses of half a drachm thrice in a day. She gradually increased the dose to a drachm, and took it with little interruption till Jan. 1813. Her situation was flattering, general health improved, menses more regular, accompanied, however, with pain; otherwise she had very little pain, and could walk with tolerable ease. Continued the tincture irregularly, till March, when alarmed at the return of some of the former symptoms, she again resorted to the carbonate; but having consumed one ounce, she could not be prevailed on to continue it; and the tincture of the muriate was reassumed.

May 1st. The medicine has not been taken with much perseverance; but the disease still declines. The bulk of the uterus is evidently very much diminished, as I ascertained by examination, though by no means reduced to its natural size.

Aug. 6th. During the last three months, sometimes the carbonate, and sometimes the tincture of the muriate has had the preference; but a moderate quantity only of either has been taken. The catamenia have returned regularly every fortnight. A leucorrhœal discharge has been present, and the pain at the secrum occasionally, felt with severity. But the effects of the bulk and weight of the uterus have not been experienced in any great degree. She can walk with tolerable ease; and can do laborious work.

Case 3d.

1812, July 4th. Mrs. B. a young woman, had only two children, the youngest of which was two years old; had not been so well since the birth of this child, as before, complained of debility, head-ache, and sinking at the *pit of the stomach;* had great weakness in the small of the back, leucorrhœal discharge, catamenia too frequently, and sometimes bearing down pains.

The os uteri was unnaturally large and hard; the state of the fundus could not be ascertained.

She took the carbonate of iron in the usual way, and her symptoms were soon meliorated; but she became disgusted with this medicine, and I directed the tincture of the muriate of iron. In the autumn, she removed from town, but continued to take the medicine for sometime. I saw her this spring, and she appeared to be entirely freed from her complaint.

Case 4th.

1813, Feb. 18th. A woman of good character applied for advice. She was emaciated, and her countenance sickly; she said she had been a long time an invalid, and was unable to gain a living as usual by her industry. Her most distressing symptoms were an extreme weakness in the back; occasional swelling of the abdomen, and shooting pains low in the pelvis; catamenia irregular, sometimes frequent and in small quantities, at others profuse, and accompanied with much pain; leucorrhœa, with which she had been troubled for some years; during the last, this discharge had been thick and yellow; latterly it had been in the habit of disappearing for a time, and then there seemed to be a tumefaction inside, which caused distress; this would presently burst, and a thick, yellowish and fœtid matter be discharged. After this another collection would commence and the same result follow; and the phenomenon was repeated.

The necessity of an examination was stated, and it was submitted to. The vagina was sound; there was a considerable degree of prolapsus uteri; the os uteri was thickened, very hard and not smooth; the body appeared to be enlarged.

The carbonate of iron was prescribed. She could not take more than a drachm in a day without nausea. When two ounces were consumed, she was decidedly better; and after taking six ounces, the discharge of yellow matter was rarely perceived, and she was so well as to return to her usual employment. She, however, continued to take the medicine and was cured.

Case 5th.

1813, June. Mrs. C. aged about thirty, desired to be relieved of some dyspeptic symptoms, which she named, and an extreme weakness in her back, with which she had a long time suffered. Inquiring particularly I learned, that her catamenia were irregular, returning at least once a fortnight, and if she made much exertion, they appeared in small quantities every two or three days; she had leucorrhœa profusely, sharp pains low in the pelvis, and if she walked or stood long, severe forcing pains. She had been married about nine years, was the mother of one child, who was about eight years old. These symptoms had troubled her since the child was a year old, but her health had not been seriously affected till lately. She had taken many medicines for these complaints, but without any permanent benefit. I mentioned my suspicions of the character of her disease, and an examination being submitted to, I ascertained, that there was some degree of prolapsus uteri; the os tincæ pressed down upon the vagina, was a little enlarged, very hard and uneven; the hardness extended as high as the finger could reach. There was no evidence that the fundus was enlarged.

The principal medicine directed was the carbonate of iron, which she took in the usual way with much advantage. August 10th, had consumed ten ounces of the carbonate, and thinks herself free from almost all her unfavourable symptoms.

Since my attention has been directed to this disease, I have witnessed many cases of morbid anatomy of the uterus. Besides dropsical ovaria, and other partial affections of this organ, which are not so immediately interesting, I have noticed the following remarkable instances, which appear to resemble some of the cases of the disease under consideration. They are not so valuable, as if accompanied with the history of the symptoms previous to the death of the patient; but they may assist to elucidate in some degree the character of the disease.

The possession of the three first cases was purely accidental, they presented, when not expected.

Case 1st.

The uterus occupied almost the whole cavity of the pelvis, leaving only a little space for the rectum, which was contracted, and pushed quite to the right side. The bladder was contracted to one third its natural size, of a triangular shape, and its coats much thickened. The substance of the uterus was unnaturally hard, of a brownish white colour, and of a uniform consistence through its whole bulk. It was a thickening of its parieties, for its cavity was of its natural size. Some small tubercles protruded from the fundus; and on its posterior face, one, very large pressed upon the sacrum. The substance of these was similar to that of the uterus. No sign of ulceration in any part. The ovaria were diseased; the right ovarium was formed into a sack, which contained about two ounces of water; the left into a larger sack, which was filled with a thick oily substance, and woolly hair, like that on the head of the subject.

Case 2d.

The uterus appeared at first to occupy a large proportion of the cavity of the pelvis; but this bulk was found to be composed of the uterus not greatly enlarged, and tubercles growing from it, and included in the same peritoneal coat. They were connected with its posterior face, and the one of greatest size was three or four times larger, than the organ itself. They could easily be dissected from the uterus, except at one or two points, and the medium of attachment was a thickened cellular membrane. Their substance was much harder, than that of the uterus, and of the same consistence throughout. Cutting into the cavity of the uterus, a distinct round tumour of the size of the yelk of an egg presented, harder, and whiter, than the substance of the uterus; easily separated from its parieties, which were thinner than natural, except at the posterior part, opposite to the large tumour, on the outside. The os tincæ was healthy, and there was no ulceration in any part. The ovaria were enlarged and hard, and on the right side a sack was formed, containing a little water.

In a third case, the size of the uterus was greater, and its substance much softer, than in its natural state. The ovaria were greatly enlarged, hard and knobby; the affection extended to the fundus uteri along the fallopian tubes, and exhibited a hard and uneven mass fixed to it on each side. The cavity was three or four times its natural capacity, and contained a yellowish fluid of the consistence of thick cream, its walls were ragged, and apparently had suffered a loss of substance by ulceration.

Case 4th,

In 1812, a woman, who had an ulcer affecting the uterus, was for a short time under my care. The disease had existed for a long time. She was confined to the bed, weak and emaciated, and her sufferings in the highest degree distressing. Great soreness was felt in the hypogastric region, and almost without interruption the most agonizing pains shooting through the pelvis. The discharge per vaginam was thin, blackish and horribly fœtid.

The carbonate of iron was given her, and it seemed to mitigate, in some degree, the severity of her pains, but did no other good. She ceased to be my patient sometime before her death, but I had the opportunity of inspecting the morbid appearances.

The cellular membrane connecting the several organs, and lining the pelvis, had become of a firm texture, compact and thick; and apparently, every lymphatic gland was enlarged, and either hard, or contained that pulpy substance, peculiar to those glands in a diseased state. The fundus uteri was not greatly enlarged, but hard. The ulcer was situated forward, and had destroyed the superior labium of the os tincæ, and a part of the neck of the uterus. The upper half of the vagina was destroyed, and that part of the bladder in its neighbourhood, was perforated with a hole of an inch and a half in diameter. The surfaces of the ulcer were black and its discharge thin and blackish.

Case 5th.

1813, June 27th. Mrs. P. aged forty-seven, came under my care on account of a supposed prolapsus uteri, a complaint, to which for some time past, she had been subject, but till the present instance had found no difficulty in reducing it without assistance. I found a tumour of an uncommon appearance protruding completely without the os externum pudendi. I was at first impressed, that it was the os tincæ in a diseased state, and greatly enlarged; and this impression was strengthened by the neck of the tumour, felt within the vagina, resembling very exactly the neck of the uterus. The tumour had been down in this situation for a week, and the protruded portion of it was cold and gangrenous; no attempt, therefore, was made to reduce it. A copious discharge of pus came from the vagina, but none of any description from the tumour; its fœtor was extremely offensive.

Bark and wine were prescribed in quantities as great as she could bear, and a yeast poultice applied to the tumour. Some advantage seemed at first to be derived from this treatment; the swelling subsided so much, that the tumour returned into the vagina; but the patient was in a short time exhausted by a diarrhea and vomiting, to which she had been subject, and which came on with much violence.

An examination was made after death. The organs of the abdomen and pelvis, except the uterus, were in a natural state. The uterus was separated from its neighbouring parts in connection with the vagina, this being laid open, a large body of an oval form, and distinct from the uterus, presented. It consisted of a body and neck, and its whole length was eight inches; its circumference, about fourteen inches; its substance was fibrous; firm and compact to the depth of half an inch, but internally loose and spongy.

The substance of the uterus was natural, and its body very little increased in size; but its neck, and the os tincæ were so stretched, as to be very little thicker than the vagina, and to form with it one uniform canal. The vagina was rendered much thicker, than it is wont to be. The ovaria and fallopian tubes were in a sound state; but it is worth relating, that two hydatids, one on each side, of the size of a common bean, were attached to the peritoneum connecting those organs to the fundus.

Mrs. P. was the mother of several children; by her account she had been an invalid for many years. Since the birth of her last child, about thirteen years, she had been afflicted pretty constantly with leucorrhœa, irregular catamenia, and sometimes menorrhagia; for two or three years past, she had almost daily some show of blood. She had submitted to a variety of medical treatment for her numerous complaints, except her principal disease, the existence of which had not been suspected.

The excrescence, it is probable, had been some time in arriving to its present size; and that its presence was the main cause of all her train of morbid symptoms, is, I think, a fair conclusion. If its existence had been known previous to its union with the vagina, might it not have been removed in the same manner, that polypi have been from the same organ?

In my former communication on this subject, the word, phagedenic was not happily applied. Some of the phenomena might justify its use; but the general expression, "ulcerated uterus," is I think more appropriate to those cases. The uterus, as well as other parts, is undoubtedly subject to ulcers of different characters; but the difference cannot so easily be distinguished during the life of the patient. Dr. Baillie, in his work on morbid anatomy mentions the malignant ulcer, as one variety of disease, which affects this organ. Probably the fourth case of the morbid anatomy, which I have sent you, is an example of this ulcer.

That disease of the uterus, which consists in an unnatural increase in the thickness and hardness of its parietes, ought to be distinguished from its ulcerated state. For though it may sometimes be accompanied with ulceration, and this may in every instance be ultimately its result, it is certain, that the organ may be greatly increased in this way without any such effect. Dr. Baillie says, that he has seen it as large as the gravid uterus at the sixth month. The first of the cases of the morbid anatomy is an example of this affection; and the second of the cases, submitted to medical treatment, appears to me to be of the same description. The first case of the former communication ought probably to be referred to this head.

This disease would not be readily suspected in its first stages, but when it has made considerable progress, it causes great soreness in the hypogastrium, and if it press on the sacrum, a distressing pain in that part. The patient feels something weighty, and suffers much in walking. The bulky uterus can easily be felt per vaginam. Sometimes are present the effects of pressure on the bladder and rectum.

When the uterus is beset with large tubercles, much the same effects would probably arise as from its last mentioned affection. These different states could not easily be distinguished during the life of the patient, and it could not be known, whether the tubercular state was more or less subject to remedies.

A disease very distinct from these, affects, and appears to me to be confined to the os uteri. The fourth case in the former paper, and the first, third and fifth presented at this time, are instances of this affection. The symptoms, which particularly mark this, are acute pains low in the pelvis; very frequent discharges of blood in small quantities; the part feels hard, and larger than natural, and sometimes uneven, but without that sense of weight to the finger, which is perceived, when the size of the fundus is much increased; on the contrary, one is impressed with the idea, that the tumour lessens, as the neck is pressed. No opportunity of proving by ocular demonstration, that the disease is confined to the os tincæ, has yet offered. The opinion rests on conclusions drawn from comparing the symptoms of this, with the symptoms of the other affections of this organ.

This disease yields readily to the carbonate of iron.

A diseased state of the uterus seems to be much more common, and a more frequent cause of misery, than is generally suspected. I am convinced, that many females, who are supposed to have dyspeptic and nervous complaints, are really suffering with a disease of this organ. It is undoubtedly often confounded also with leucorrhœa, as a discharge, difficultly distinguished from this, pretty uniformly accompanies these affections of the uterus.

A case of diseased breast, for which the tincture of the muriate of iron was successfully employed as a remedy.

The subject of the following case was a woman of about forty-five. She had in the centre of the right breast an ulcer of about two inches and a half in diameter over the surface, but not very regular; its edges were thick and elevated; its base hard, and extended deep into the substance of the breast; the nipple was destroyed, but the gland was not involved in the disease. The discharge from it was dark coloured, thin and fœtid. It was very painful, and would have passed well for a cancer. The axillary glands were enlarged, and two of them quite hard. Many external applications had been made without apparent benefit. Among the rest, the carrot poultice had been used, and as this appeared to be a pleasant application, it was continued.

I directed the tincture of the muriate of iron to be taken three times a day in doses of half a drachm, gradually increasing it to a drachm. The ulcer put on a better appearance, when she had taken this medicine a short time only; and it continued to improve, so that at the end of four months, it was healed; and the induration of the glands of the axilla almost disappeared. It is nearly a year since her cure, and she remains well.

ON DELPHINIUM CONSOLIDA.

BY DR. ABEL BLANCHARD, OF PEMBROKE, NEW-HAMPSHIRE.

[To the Editors of the Medical Journal.]

Having very fortunately discovered that the Delphinium, or Larkspur, of our gardens, (Delphinium Consolida ?) possesses important medicinal properties, I take the liberty of communicating to you such circumstances relative to its medical qualities, as have come under my immediate observation.

About two years since I had a patient, a lady of about forty; who for several years had been afflicted with a troublesome dyspnea, probably a nervous affection of the epiglottis; her inspiration very difficult and sonorous, her expiration tolerably free.

She was attacked with the disease two or three times in a year, the paroxysms recurring, daily, for ten or twelve days, and continuing from two to six hours each day.

She had taken emetics, opium, ether, musk, and the whole routine of antispasmodics; and though formerly with some relief, latterly very little: Galvanism would afford almost instant relief, but unfortunately the disease would the next day return with its usual violence.

Her complaint thus having become "formidable by circumstances," I thought it necessary to seek for my patient some new remedy, or resign her up as incurable.

Having at that time some of the larkspur prepared, by infusing one ounce of the bruised seeds in one pound of proof spirit, (a preparation I had made about six years since, with the intention of giving it in the hooping cough, a disease at that time prevalent where I resided, but the disease subsiding, I lost the opportunity of testing its virtues)—I thought it now a good opportunity to try the effect of my new medicine; and accordingly repaired to my patient's apartment, who was then breathing so as to be heard at considerable distance, and administered fifteen drops of the tincture. After waiting about twenty minutes, without observing much abatement of her complaint, I gave another dose of ten drops; immediately, her breathing became easier, and in the course of fifteen minutes she was perfectly relieved.

Although pleased with the benefit my patient had received, and flattered with the idea of having discovered an antispasmodic more powerful than was contained in the Materia Medica; yet I felt no little anxiety about the consequences; but after tarrying with my patient about two hours, my fears entirely subsided; being unable to discover any alteration in her pulse, and about the same degree of faintness that had generally followed the termination of the paroxysms.

I now left my patient, with directions to take ten drops the next day, should she perceive her dyspnea returning;—she observed my directions, and obtained immediate relief,—since which she has had no return of her disease.

My patient had for years been very dropsical, for which diuretics became necessary every three or four months, and on visiting her the second day after giving her the new medicine, I was surprised to find, that a diuresis had come on, more powerful than she had ever before experienced, removing every appearance of dropsy; since which she has taken no other diuretic; whenever diuretics became necessary, one dose, of five or six drops, has been invariably sufficient to remove the superabundant water.

Although the first operation of the medicine in this case, might warrant the conclusion I then drew, that it was powerfully antispasmodic; yet its subsequent operation as a diuretic, may perhaps render it doubtful, whether it relieved the breathing by operating on the nervous system immediately, as an antispasmodic, or mediately, by promoting absorption in the lungs, thereby removing the possible cause of spasm in that particular case.

That the medicine in this case was diuretic is certain, as no other medicine was given in conjunction, at the first or subsequent times.

That it was antispasmodic is probable, from the immediate relief obtained, and from the circumstance, that Galvanism, in that case an antispasmodic only, would afford immediate relief.

What particular irritability this person might possess, to render the medicine so very active, I am unable to say, in no other case has its operation been nigh so powerful; by this we perceive the necessity of commencing with small doses, as in giving digitalis and other narcotics.

From the above case, we have positive evidence that the larkspur is an active and valuable medicine; but in what particular cases of dropsy it would prove the most beneficial, I am at present unable to decide; having been very much restricted in the use of the medicine, in consequence of being deprived of a sufficient quantity by some unavoidable circumstances.

The principal use I have made of it, is in affections of the lungs; in asthma, particularly the *spasmodic;* and in most cases of cough,—and am clearly of opinion that when compared with digitalis, it merits a decided preference; except in cases where it becomes necessary to diminish arterial action.

A common dose for an adult is from ten to twenty drops, two to three times a day. I have generally given it with paregoric, one part to three, beginning with twenty drops and increasing as the case may require.

Large doses nauseate, produce a slight diarrhea, and sometimes a profuse perspiration; do not affect the pulse, nor the uterine system.

Though I very much regret my inability at this time to define to you more satisfactorily its medical qualities, I hope the above observations will afford a clue for others; that at no distant period the Delphinium will occupy that high rank in the Materia Medica of our country, which my own observations persuade me to believe, that it so richly deserves.

Most respectfully, your obedient servant.

ABEL BLANCHARD.

BIOGRAPHICAL NOTICE

OF THE

LATE DOCTOR RUSH.

Those who devote themselves to medical literature in this country are so few in number, and the reward of their labours is so meagre, that it is a duty and an honour to pay them the tribute of our gratitude while living, and to present an offering of veneration at their tombs. The late Dr. Rush stood highest among those who have attempted to benefit their profession and country by a free communication of the results of their observations and reflections. He was not one of those, whom avarice and indolence restrict to the contracted sphere of private practice; but he was useful to a whole nation, by diffusing the knowledge he had acquired.

It is not, however, necessary to give a full description of his life and character at present, as it is understood that a history of his life, prepared by his own hand, will soon be presented to the world.

Dr. Rush was born at a place about twelve miles from Philadelphia, in December, 1745, received his school education in Maryland, and the degree of bachelor of arts at the college in New Jersey. He then entered as student of medicine with Dr. John Redman of Philadelphia, with whom he remained six years, and such was his attention and diligence, that in the course of that time he was absent from his studies only two days. After this, he went to Edinburgh, where he graduated as doctor of medicine in 1768, and wrote a thesis "De coctione ciborum in ventriculo." The following winter he passed in London, and the spring in Paris.

On his return to Philadelphia, he was appointed professor of chemistry in the college of Philadelphia, in the year 1769. His first writings were against *African Slavery*, and on *Capital Punishments*; and when the revolution commenced, he wrote many political essays in support of the freedom of his country. He was one of the signers of the Declaration of Independence, and some time after the occurrence of that event, was appointed physician general in the army; but this post he did not long retain.

In the year 1789, he was elected professor of the theory and practice of physick in the college of Philadelphia, an office previously possessed by the distinguished Dr. Morgan. In 1791, the college of Philadelphia and the university, whose discord had stopped the progress of medical improvement in Philadelphia, were united, and Dr. Rush was chosen professor of "the institutes and practice of physick and of clinical medicine." From this period, we may date the origin of the prosperity of the Philadelphia school of medicine.

His principal works are four volumes of Medical Inquiries and Observations, of which the third edition appeared in 1809; a Volume of Lectures, which had been delivered as introductory to his Courses of Lectúres; Sermons to Gentlemen on Temperance and Exercise; a Volume of Essays, Moral, Literary, and Philosophical; and a Volume on the Diseases of the Mind, which was his last production. It is stated to have been his intention to have formed a work on "the Medicine of the Bible;" in which he proposed to distinguish between those cures, that might be performed by natural means, and those which must be admitted to have been miraculous. For this he had made considerable preparations, but not such as to admit of publication.

"After visiting his patients as usual, on Wednesday the 14th of April, he was attacked in the evening, with a violent chill, which was relieved by some brandy and water. In the night he awoke with a very severe pain in the side, attended with great difficulty of breathing. He sent for a *bleeder*, and ordered him to take eight or ten ounces of blood from his arm. After losing blood he was relieved and slept. A medical friend was requested to visit him, the next morning, and finding him weak and exhausted, he administered wine whey, which was evidently very beneficial. His pulse, however, became gradually weaker, and his symptoms soon assumed the prevailing typhus type. Stimulating remedies were administered to as great an extent as the stomach would bear, and external irritation was kept up, but without effect; at about 5, P. M. on Monday, 19th April, he expired. He was perfectly rational, and expected with the greatest composure his approaching dissolution. Some of his last moments were spent in fervent prayer."

The death of such a man produced the same impression in Philadelphia, as a public calamity. Every token of respect was paid to his remains, and on the 8th July a public eulogium on his character was delivered by a clergyman of the city, at the request of the students of medicine.

Dr. Rush was an eloquent speaker, and an excellent writer. His productions possess the singular merit of being interesting to physicians, and intelligible to men of other professions. He is thought to have improved the practice of medicine in this country in many essential things; though the warmth of his feelings led him to pursue, perhaps with too much ardour, a favourite mode of practice as well as speculative opinion.

ON THE

OCCASIONAL BAD EFFECTS OF ERGOT,

ADMINISTERED TO PROMOTE PARTURITION.

[To the Editors of the New England Journal, &c.]

Having observed by some publications in your very useful Journal, that suspicions and doubts have arisen as to the occasional bad effects of Ergot on the infant during parturition, I beg leave to state the following case, which you can insert in the Journal or not, as you think proper.

Sometime since, I was requested to attend a patient, then in labour for the third time. Her two former labours had been perfectly natural; the second especially was attended with very few pains. When I visited her, the pains were rather strong, and the os uteri so well dilated, that a very speedy termination of the labour seemed probable. Soon after, the os uteri became fully dilated; but in a short time I observed that the head advanced more slowly than one might expect under such circumstances. The pains, however, continued as long as two hours more, then gradually subsided, and at last wholly ceased. Various attempts were made to re-excite the pains by stimulating the os uteri with moderate pressure, by causing the patient to rise and walk about, yet all without effect. Conceiving that further delay might be attended with some ill consequence, I resolved to employ the lever, having a confidence in that instrument and a facility in the use of it. In a short time the head was moved from the spot where it seemed to be bedded, and the operation of the instrument being aided by slight pains, in the space of twenty-five minutes, a healthy child was delivered.

On drawing down the umbilical cord, with the intention of extracting the placenta, more than common resistance was felt, which induced me to place a hand on the abdomen, by which it appeared there was another child to be delivered. This circumstance was not mentioned to the mother, as it was thought likely to discourage her, after the suffering and apprehension she had already experienced; but she was told that it would be necessary to wait an hour for the extraction of the placenta. The hour passed away therefore with great patience on the part of the mother, but not so much on mine: for there was not the slightest appearance of pains during that time. At this moment I was called on by another practitioner, to whom I thought proper to mention the case, when he suggested the use of Ergot. Having myself sometimes used that substance, I was surprized that it had not occurred to me in this instance, and immediately resolved to employ it. Fifteen grains of the powder were at once given in a little water. In 15 or 20 minutes the pains came on, and continued without remission till the child was born, which was in about twenty minutes from the time the pains commenced, the head being born first, as in natural labours. The child made no efforts to cry, which induced me to dash water and spirit upon it, then to rub it with the latter about the head and breast, and to clear its mouth of mucus; these things failing, I attempted to inflate the lungs, but some time being consumed in obtaining the necessary articles, the child was lost. It was in every respect as fine a child as the first, perfectly fresh and firm; and the umbilical cord pulsated when it was first born.

Every one who is acquainted with the facility with which, in a case of twins, the second child makes its way into the world, will consider the death of the child in this instance, as an unusual occurrence. For my part, I confess I was at first, wholly at a loss to explain it; but on mentioning it to two or three medical friends, one gentleman remarked that his observations had led him to believe that *Ergot* sometimes proved fatal to the child; and another, a physician of great experience, said, without any intimation of the kind from me, "Ergot kills the children." On what observations the opinions of these gentlemen were founded I know not; but since I have reflected on the matter, have no hesitation in declaring my opinion that in the case related above, the unremitting contraction of the uterus, produced by the administration of this substance, forced down the child so steadily and strongly, as by a long continued and violent pressure on the brain to destroy the life of the child.

A YOUNG PRACTITIONER.

J. Bigelow

REVIEW.

ARTICLE XIX.

Remarks on the importance of Inland Navigation from Boston, by the Middlesex Canal and Merrimack River, in the present and probable future state of Foreign Commerce. By John L. Sullivan.

It is perhaps scarcely necessary to offer an apology for introducing this publication to our readers, when it is considered that this Journal is the only periodical work in this part of the country, whose object is even remotely connected with the useful arts and sciences. If excuses were required, we should readily find them in the very great importance of the subject to the states of Massachusetts and New-Hampshire, and especially to our native town. An intelligent English traveller in the United States remarks, that while Boston is one of the oldest cities in the United States, and possesses an excellent harbour and a very industrious and enterprizing people, yet it is inferior in population to Baltimore, a town but lately come into public notice. The reason he assigns for it is, "that the river near Boston is navigable for six or seven miles only," and that all the most fertile parts of the state communicate with other places, especially New-York, by means of navigable waters. Thus the vital sources of its prosperity are diverted for the nourishment of a distant population. These remarks seem to be so perfectly well founded, that we greatly apprehend the consequences to our native town of a new arrangement of the commerce of Europe. During the last twenty years, the trade of the civilized world has been in a forced and somewhat unnatural state. In consequence of which, great and rich nations, not being able to export their own commodities or receive those of other nations, have employed the Americans as their commercial carriers. During this period the activity and enterprize of our citizens has had full scope; but where can it exert itself, after the tranquillity of Europe shall be restored and those nations again obtain the free use of the seas? Boston, deprived of the carrying trade, will not enjoy the resources of New-York and Philadelphia and Baltimore, whose water communications with a great country, are constantly supplying them with such agricultural productions, as foreign nations want. It is vain for us to expect to be saved by industry, activity and enterprize, when the politics of nations abroad, and the want of internal communications at home leave no opportunity for the exertion of those qualities. Our most industrious population, finding no satisfactory occupation at home, will quit us, and leave the town to grow thin and poor.

It will no doubt be inquired, what are the great privileges, which arise from internal navigation? On what basis are they founded, and whence arises their superiority over communications by numerous and excellent roads? The reply is ready. One horse will draw on water, as much as *thirty* horses on common turnpike roads, and *one* man will transport as many goods on a Canal, as *three* men and *eighteen* horses on turnpike roads. Hence a city, which possesses water communications will be proportionally richer than one which has roads only; supposing both to possess the same resources.

What can be done to save us from the decay that menaces our city? Are there no means of obtaining the same advantages, which form the foundations of the growing power of New-York, &c.? Fortunately there are such means, and nothing but a knowledge of their importance is necessary to induce men of property to direct a part of their wealth to bring them into activity. There is a noble river, there is a fertile country full of inhabitants, the productions of whose industry we may bring to our doors, while they in return will be supplied by us, at a cheap rate, with the products of distant countries. The prospect does not terminate here. The communications may be extended from this river in different directions, so as to connect with the waters of other rivers and lakes through a great extent of country, whose surface is rich and variegated, and whose interior is filled with the most valuable minerals.

The first step, and the most arduous, towards the accomplishment of these great objects, is already taken by the formation of the Middlesex Canal. But the proprietors and projectors of that noble work, apparently considered it sufficient to unite the waters of the river Merrimack with those of Boston harbour, to render their Canal useful and productive. They do not seem to have sufficiently reflected that while the river itself remained not navigable for more than four or five miles, they had little to expect; considering the nature of the country through which the Canal itself passes. The moderate returns of the Canal fortunately soon demonstrated that though a great deal had been done, something more important remained. This discovery would probably have discouraged them, but for the talents and industry of the author of this pamphlet. This gentleman being satisfied of the causes of the ill success of the Middlesex Canal, and having ascertained the nature and extent of the obstructions in the river Merrimack, very readily convinced probably all those who were willing to attend to the business, that the obstructions might be removed, and that this being accomplished, the enterprize must ultimately prove successful. Since that time, the removal of these obstructions has been carried on with activity. The most formidable rapids are now completely passable, and nothing remains, but to add some works of inferior importance, to surmount all the numerous obstacles, with which nature has guarded the navigation of this beautiful river. The noble structure of the works around the Hookset, Bow and Union falls, little known as they are to the inhabitants of Boston, would be objects of admiration to them, if placed in a foreign country. We consider with astonishment the courage of the projector, who ventured to propose opening a long passage through the solid rock, and employed the obstacles, which opposed his course on one side, to barricade the fury of the torrent on the other. As soon as the remaining river works are completed, the navigation on the Merrimack will be open for a space of forty miles from the head of the Middlesex Canal.

The latter is twenty-seven miles in length; so that from Boston, the capital of Massachusetts, to Concord, the seat of government in New-Hampshire, there will be a free navigation for about sixty-five miles. Forty miles of this passage is through a fertile and populous country. The banks of the river are lined with thick groves of the finest forest trees, whose branches overhang the water, presenting themselves for the numerous purposes of commerce and the arts. The soil is rich and clothed with extensive amd heavy fields of grain. When it is considered that a part of this country has been hitherto locked up, and that the rest of it has communicated with the sea coast by a land passage, which for heavy articles is so tedious as to prohibit the removal of them, we contemplate, with no small pleasure, the day which shall give us an easy intercourse with its interior. The transportation of agricultural productions does not include all the advantages we are to derive. The great river receives many smaller rivers and streams, which, in this mountainous country, fall over rocks and precipices, and present numerous seats for manufactures. Already we observe extensive works at Amoskeag. and other places, whose number and prosperity will certainly be increased by opening a communication and interchanging commodities with the metropolis. Although we cannot be much gratified with the great extension of this particular species of industry, yet so far as it serves to retain the overflowing population of the country, it may be conducive to public prosperity. The country on the banks of the Merrimack is well peopled. On this subject, we should do too great injustice to our author to present any substitute for his remarks.

"This district lying in a direction northwest from this town, [Boston] comprising about two thirds of New Hampshire, and full half of Vermont, embracing in the latter the counties of Caledonia, Chittenden, Essex, Franklin, Orange, Orleans, and Windsor, and most of Addison, contains at least 136,000 inhabitants; in the former, the counties of Rockingham, Hillsborough, Grafton, Coos, and part of Cheshire, containing 150,000 inhabitants, together amounting to a population of two hundred and eighty six thousand, according to the last census, is every where increasing. The greater part of the trade of the most western of the counties of New Hampshire, with those of Vermont, now goes to New York, though four hundred miles distant, by Connecticut river, which intersects this district. The centre of this range of country is distant only one hundred and fifty miles from Boston; for one hundred miles of which water carriage may be afforded by means of the Merrimack river, and Middlesex Canal, and for the remaining distance there are good roads already formed, or now forming. The town of Windsor, in Vermont, lies about as far north on Connecticut river, as Concord, in New Hampshire, does on the Merrimack. The country between is very populous and productive, containing the towns of Hopkinton, Hennica, Ware, Hillsborough, &c. On the highest land between the two rivers, there is a very large pond called the Sunapee Lake, from which Sugar river takes its rise, and runs into the Connecticut not far from Windsor. From the lake, on a small rise of the water there is an outlet eastward into Contoocook river, which joins the Merrimack between Concord and Boscawen. There are other places deemed favourable to a union of the two rivers, but this is thought the most practicable place; the face of the country presents no considerable obstacle to such an enterprize. From Windsor, roads diverge and cross the state to Lake Champlain. From Boscawen, the town next above Concord, one turnpike road leads to Hanover, another, after following the river to Salisbury, leads near Plymouth across a well settled country to Haverhill, Coos. At both places they cross the Connecticut by bridges, and continue a northwestern course to Canada. The travel in this direction was great enough to induce the formation of these roads.

" We might enlarge on the articles of export from Vermont. Every merchant knows that it supplies vast quantities of provisions, butter, cheese, flaxseed, ashes, &c. and the state is known to contain some of the most useful minerals, especially iron. At Thetford, about eight miles above Hanover, copperas is made in considerable quantities. Cotton factories are establishing in various places.

“ Besides the counties on either side of the Merrimack from which great supplies of timber have been and will continue to be brought, we may ultimately calculate on the trade of that part of New Hampshire, lying on Connecticut river, above the Moosilock, or Franconia mountains, and a considerable population that has extended into Canada in that direction. From this district a road is making through the notch of those mountains directly to Plymouth, by which a saving of fifty miles will be made in the rout to Boston. In addition to this the fertile shores of the Winnipisiochee Lakes, must supply a great amount of trade to Boston by the channel of the Merrimack. From this river at Salisbury to the largest of the lakes is twenty three miles; there are three intermediate sheets of water from four to six miles in length, and from one to three broad. The shores of the whole are computed to measure two hundred miles. A coast of this extent, occupied in a great degree, either with cultivated grounds or well timbered lands, may be expected to afford much business. The fall from the Lake to the Merrimack, as recently measured, viz. to Sanburnton bridge within four miles of the river, is forty-eight feet, and the navigation thus far might be opened by five locks. From thence to the Merrimack the fall is one hundred and eighty-three feet; the ground, however, is very favourable the greater part of the way for preserving a level nearly to the river, to which a descent might be made without locks; but by one of those methods common to Canals in hilly districts.

“ Although the trade above described from Vermont and the western parts of New Hampshire has principally gone to New York, still a portion of it has come to Boston by the roads parallel with the Merrimack and the Middlesex Canal; and a part of this by water, as far as that river is now navigable with boats.”

The principal articles, brought down the Canal at present, consist of excellent oak plank and timber; pine plank and timber, both white and yellow, the last of which is particularly valuable for ship masts and spars; fire wood; pot-ashes; cyder; stone for building. The white granite of Chelmsford, is scarcely less beautiful than marble, and is now much employed for public buildings in Boston and its vicinity. The article of fire-wood is very important to the capital. The author states, that ninety thousand cords are annually consumed in Boston, of which the Canal supplies four or five thousand; but should the coasting trade be destroyed by war, the town would look toward the Merrimack for a considerable part of its supply. Provisions for exportation, will, no doubt, form a great article of trade by this Canal.

Possessed of so many advantages, we cannot hesitate in considering the Middlesex Canal as property that will be very valuable. At present, its credit is low. The reasons why this should, nay, must be the case, at present, it is hardly necessary to state; for we have already shown that this work should never have been considered as completed, so long as the river remained unopened. Yet, while wanting this great advantage, the Canal has yielded in one year about fifteen thousand dollars, on a capital of five hundred thousand dollars. The river Canals, which are in some measure a separate property, are sufficiently profitable at present.—The disappointment in the high wrought expectations of profit from Middlesex Canal, sunk the value of the shares excessively, and produced a popular sentiment very unfavourable to the expectation of future advantages. The excellent management of its concerns of late, and the regular and systematic completion of the additional works has nearly obliterated these unfavourable impressions, and produced a gradual rise in the shares. We cannot avoid expressing the conviction that it will ultimately become the best property in the country; and those, who possess it will have the additional satisfaction of knowing that they have contributed, in the most important way, to the prosperity of their country and native town. Persons who have been in the habit of depreciating the value of this Canal may endeavour to ridicule our anticipations, as chimerical; but we have numerous instances on record of property of the same nature, less favourably situated in every respect, which has suddenly risen in value from causes similar to those which will operate on this. Every one is acquainted with the immense value which the Duke of Bridgewater's canal suddenly assumed; but we are informed of an instance still more remarkable, that of the Canal from Chester to Nantwich, in England. This Canal, eighteen miles long, was completed at an expense of eighty thousand pounds sterling, and the property afterwards depreciated ninety-nine per cent. so that what was worth one hundred pounds, was sold for one pound. It was proposed a few years ago, to cut another passage into it, some miles further in the country, when Mr. Hamilton, a gentleman of fortune, purchased nearly all the shares. The additional works were completed, and in a short time the property rose fifty per cent. above par, so that what had been sold for one pound sterling, now sells for one hundred and fifty pounds. This Canal yields ten per cent. income.

The introduction of the use of the steam boat, will be highly advantageous to the river navigation; as both rowing and *poleing* are very laborious operations against the rapid current of the river. One of these boats is nearly finished, and will probably run the next season. The loss of the use of the Canal during the winter months, is a material cause of diminution in its profits. This might, in some measure, be prevented by building, on the banks of the Canal, a rail road or rail way, such as is now common on the English canals. The cheapness of timber would enable the proprietors to build such a road, at a small expense. This might be used to convey goods, when the Canal was shut by ice, with a very great saving of labour, and a corresponding profit to the proprietors of the Canal.

It may be supposed that we have been lead to these remarks, so contrary to the popular opinion, by motives of an interested nature. We think proper to declare therefore, that we have no interest in this business, other than that which every citizen should have, who loves to promote the prosperity of his native place. The works in question, especially those on the river, we have beheld with surprize; and it seems no more than a duty to pay this tribute of respect to the enterprize of the proprietors of the Middlesex Canal; and to the ability and industry of the author of this pamphlet, whom we understand to be the projector of the river canals, which have been lately executed. The great talents of this gentleman, as a civil engineer, are displayed in the strength, rapidity and economy with which these works have been executed. In truth, the discouragement of the proprietors would at one time, have endangered the abandonment of the whole property, but for the clear views and the persevering industry, and the able statements of colonel Sullivan.

We congratulate the proprietors and the public, on their possessing the use of this gentleman's talents; we congratulate the proprietors of the Middlesex Canal again, on a near prospect of reward for their perseverance and anxieties; and we very humbly presume to recommend to those, who have accustomed themselves to undervalue the utility of this great project, and to ridicule its hopes of success, to do their town and state the justice of viewing the works and the country they are connected with, before they venture to pronounce sentence of condemnation and ruin.

ARTICLE XX.

History of the Royal Society, from its institution to the end of the eighteenth century. By Thomas Thompson, M. D. F. R. S. L. and E. member of the Geological Society, of the Wernerian Society, and of the Imperial Chirurgico-medical Academy of St. Petersburgh. London, *printed for* Robert Baldwin, *&c. 1812. 4to. p. 552.*

No one who is in any degree interested in the fate of the physical sciences can contemplate, without admiration, the rise, progress, and present state of the Royal Society of Great-Britain. The Philosophical Transactions are the great depositaries of English science. We have only to open these volumes, which embrace a period from the year 1665 to the present time, to dwell on the results of the labours of men, illustrious for extensive learning, for long continued research, and for profound and critical investigation. We view with reverence these monuments of their fame, more durable than the statues of St. Paul's, or the marble tombs of Westminster Abbey. The naturalist venerates the pages inscribed with the names of Sloane, Morison, Ray, Hales, Pennant, Willis, Crawford, Croone and Pringle; the mathematician despairs of emulating the higher calculations of Willis, Newton, Halley, Robins, and Tailor; the mechanical philosopher honours the memories of Boyle, Hooke, Newton, Hutton, Watt, Maskelyne, and Dolland; and the chemist dwells with enthusiasm on the discoveries of Cavendish, Priestley, Kirwan, Pearson, Wollaston, and Davy.

But although the Philosophical Transactions may be regarded almost as a Journal of Philosophy, the number of volumes is now so great, that few are able to obtain the whole series, and few would be willing to incur the expense of purchasing the work. It was an object therefore with the Society to epitomise this extensive collection of papers, to separate those which are really valuable, from others which are bad or indifferent, and without encroaching on the property of their predecessors, to reduce them to a form and size which would favour their circulation in the philosophical world. The difficulty of such an undertaking was such, that it was never effected before this period.

Dr. Sprat's History of the Royal Society is brought down no lower than the conclusion of the civil wars, and though it may be interesting to the members, it contains nothing very instructive to the philosopher. Birch's history appears to be merely a journal of its proceedings, and it does not include that portion of its existence, in which it shone with the greatest lustre. The obstacles presented in the execution of this work will appear by the following extract from the preface of Dr. Thompson's history.

"The following work was projected by the proprietors of the new abridgment of the Philosophical Transactions, and was intended to consist, partly of biographical sketches of the most eminent Fellows of the Royal Society, and partly of an arranged view of the whole contents of the Philosophical Transactions, from the commencement of the work, in 1665, down to the end of the year 1800, when the abridgment terminated. The plan being laid before the author some years ago, he readily agreed to undertake the execution of it, conceiving that such a work would be of considerable utility; but in attempting to collect the materials, several difficulties occurred rather of a formidable nature. The first, and not the least fatiguing part of the task, was to peruse the whole of the Philosophical Transactions, and to arrange all the papers under distinct heads, according to the sciences to which they respectively belonged. This took up a much longer time than the author expected, or indeed would choose to specify. On proceeding to draw up an account of the papers belonging to each of the sciences, in the order that appeared most convenient, it was immediately perceived that the essays, for the most part, were of so insulated a nature, that it would be impossible to give any interest or connection to the work, if the subjects were strictly confined, as was originally intended, merely to the details to be found in the Transactions. To remedy this defect as much as possible, and to give the reader a greater interest in the sciences as he proceeded, it was thought necessary to begin the history of every science as nearly as possible at its origin, and to give a rapid sketch of its progress till the period of the establishment of the Royal Society."

"On attempting to give an analysis of the papers in the Transactions, it was perceived that there were some classes of them, which could not, with propriety, be abridged, on account of the nature of the subjects of which they treated. This in particular was the case with the papers on botany. In some branches of science the author was overwhelmed by such a multitude of valuable papers, quite unconnected with each other, that it was impossible, without swelling the work much beyond the length that would have been tolerated, to notice them all. This is the case particularly in the sciences of medicine, mathematics and chemistry. The only resource left in these sciences was to select those topics which appeared of the most importance."

We have made this copious extract from the preface because it at the same time shows the nature and plan of the work and the difficulties presented in its execution. It is this idea of giving a rapid view of each branch of science down to the period of the institution of the Royal Society, and the learning and judgment displayed in its progress, which renders this volume peculiarly interesting. In this way we are presented with a *coup d'œil* of the rise and progress of any subject of philosophical investigation, and the degree of merit which may be attached to these distinguished members of this Society, who have employed their resources, either in detecting the errors of their predecessors, or adding some new and useful truth to that which was before known. To beguile the attention of the reader, and to support the interest of the detail, numerous biographical sketches are introduced, which though too concise to encroach on the general plan of the work, abound with that species of information, that gives us an idea of the character of the man, as well as of his reputation as a philosopher. The histories of Boyle, Newton, Hooke, Scheele, and Linnæus, are of this description.

The subjects of the various papers published in the Philosophical Transactions, are arranged by Dr. Thompson in five classes. The first contains those on natural history, including anatomy, surgery, and medicine; the second, mathematics; the third, mechanical philosophy; the fourth, chemistry; and the fifth, miscellaneous papers. The number of memoirs published amounts to four thousand one hundred and sixty-six, and with respect to the number on each branch of physics, they are as follows.

1	Botany	107	15	Optics	137
2	Vegetable Physiology	82	16	Dynamics	40
3	Agriculture	44	17	Mechanics	51
4	Zoology	290	18	Hydrodynamics	120
5	Anatomy	131	19	Acoustics	26
6	Comparative Anatomy	90	20	Navigation	48
7	Physiology	220	21	Electricity	211
8	Medicine & Surgery	478	22	Magnetism	71
9	Mineralogy	38	23	Chemistry	406
10	Geognosy	251	24	Meteorology	281
11	Mining	29	25	Chemical Arts	87
12	Geography and Topography	67	26	Weights and Measures	12
13	Mathematics	208	27	Political Arithmetic	39
14	Astronomy	416	28	Antiquities	120
			29	Miscellaneous	66

"From this table it appears that medicine, astronomy, and chemistry, are the sciences which furnish the greatest number of papers, though electricity is the science, which is most completely developed."

The abstracts of the histories of the four first classes, are admirably executed, and from the tenseness and closeness of style which characterize the writings of Dr. Thompson, a vast fund of information is collected in a very short space; but from the nature and the subjects of this work, it is obviously impossible for us to give more than a very general outline of it. The chapters on mathematics and on chemistry, are perhaps superior to the histories of the other branches of physics. We shall give an extract from that portion of natural history, which relates to medicine, to afford our readers an opportunity of forming an opinion of the manner in which Dr. Thompson has fulfilled his duty to the Society and to the public. Speaking of the revolutions in the science of medicine, from the chemical doctrines of Paracelsus, and the mechanical theories of Borelli, Pitcairn, Keill, Boerhaave and others, to the introduction of the agency of a living principle by Stahl and Hoffman, the author observes—

"Stahl had recourse to a *living principle* or *soul*, by means of which he accounted for all the functions of the living body; and he founded upon this physiological explanation, a system of medical doctrines possessed of much ingenuity, but at the same time abundantly intricate and obscure. Hoffman had recourse to a principle of irritability, residing in certain solids, a principle connected with, and dependent on, the nerves, and which enabled him to remove the seat of disease from the liquids, where it had been uniformly placed by all preceding medical men, and to consider it as residing in the solids. The theory of Hoffman was embraced, with some limitations, by the celebrated Dr. Cullen, who taught it for many years in the University of Edinburgh. His theory of fever, of which he has given an outline in his work entitled, *First Lines of the Practice of Medicine*, is obviously a modification of the doctrine of Hoffman.

"Neither ought the doctrine of Brown, which attracted so much attention and acquired so much celebrity, in consequence of its apparent simplicity, to be considered in any other light than as a scion sprouting from the doctrine of Hoffman."

"The only other medical doctrine which has appeared in this country is the Zoonomia of Dr. Darwin, a very elaborate work, which is not very susceptible of abridgment. I consider it as merely the Brunonian doctrine under a disguised form, introduced with a greater parade of learning and science. The great number of new terms introduced into it, makes it a very irksome task to peruse it. Great pains are taken, throughout, to discard every appearance of a living principle, and to establish medical practice on the broad and vulgar basis of materialism.

"Such is a short sketch of the history of Medicine down to our own time. From a view of the whole, we are entitled to conclude, that medicine, if we may consider it as a science, has made very little progress since the days of Hippocrates. New theories, indeed, and new modes of explanation, have successively appeared in abundance, but they have been all equally visionary and absurd, and have vanished without leaving any traces behind them. If we attend to the opinions and writings of the medical men of the present day, we find a propensity among some to restore the exploded chemical doctrine of Paracelsus, amended, and, of course, improved. Others lean pretty strongly to the humoral doctrines of the ancients, obviously in consequence of the strong bias, which the popular systems of Hoffman and Cullen gave medicine, to direct the whole of its attention to the solids.

"On the other hand, if we view medicine as an art, it has undergone great and progressive improvements. The Materia Medica has been gradually almost entirely changed; and the present mode of treating patients, though perhaps not less efficacious than that of the ancient, is infinitely superior in every thing which concerns the feelings of the patient."

On the subject of chemistry, the author, as might have been expected from his known acquirements in that branch of physics, has shown himself well acquainted with the causes which led to the adoption, and the methods which were successfully pursued, to give celebrity to the Lavoisierian theory. After adverting to the success of Lavoisier in acquiring the aid of such men as Berthollet, Fourcroy and Morveau, Dr. Thompson proceeds to observe that three Herculean tasks were undertaken by them at the same time. The first was to establish a new nomenclature in the science of chemistry; the second, to prevail on the chemical world to embrace it, and to discard the old and familiar terms; the third, to write down all opposition to their principles.

1. "To construct the new nomenclature, he associated with him Berthollet, Fourcroy and Morveau. They accordingly contrived a new nomenclature, founded entirely on the Lavoisierian theory, which was published in 1787, under the title of the *New French Chemical Nomenclature*, a title which by pleasing the vanity of the French nation, and giving them importance in their own eyes, contributed more than any thing to spread the Lavoisierian opinions, or, as they delighted to call them, the *new French theory*, through the kingdom of France. This new chemical nomenclature was undoubtedly possessed of great mer-

it, and adapted with the utmost sagacity to the state of the science in 1787; and if the science had stopped short in that state, it might have been considered as unexceptionable;" but "it is already exceedingly ill adapted for expressing the present state of the science, and its imperfections must of necessity become more glaring every day. So that in no great number of years, it will be absolutely necessary, either to discard it entirely, or to alter it altogether."

2. The second object was effected by the establishment of a periodical work, called the *Annales de Chimie*, which contained all the chemical papers they chose to publish, together with "notices respecting almost all the writings of importance, which appeared on the subject in every country in Europe, and the *new nomenclature* only was employed. This obliged all the French chemists, at least, to make themselves acquainted with the new nomenclature. The celebrity of the editors and the valuable matter which the Journal contained, secured it the attention of all the chemists in every country in Europe. So that in a short space of time the new nomenclature became generally known and understood over the whole civilized world."

3. The last method successfully employed to establish the *new nomenclature* and the *French theory*, was still more extraordinary. It consisted in writing down Mr. Kirwan, or perhaps more correctly, in an elaborate attempt to refute the arguments brought forward by Mr. Kirwan in his Essay on Phlogiston, in which he had published a modification of the Phlogistic theory, drawn from the experiments of Dr. Priestley and the German chemists. In this work he infers, that "hydrogen is a constituent of charcoal, phosphorus, sulphur, and of all the metals, and that, during combustion, it separates from these bodies and enters into new combinations;" a theory which met with a favourable reception, and was likely to be adopted by the chemists in Britain, Germany and Sweden. The means by which this blow, aimed at Lavoisier and his associates was averted, are curious, and we shall describe them in the language of Dr. Thompson. "It occurred to Lavoisier and his associates that a satisfactory refutation of this theory, associa-

ted as it was with the greatest names in Europe, would be a death blow to the doctrine of phlogiston, and would give an eclat to the *French theory*, as they were fond of calling it, which would render it invincible.

" Accordingly Mr. Kirwan's Essay on Phlogiston was translated into French, and the different sections parcelled out among the apostles of the new system, that they might write a refutation of each. Lavoisier took charge of four sections, Berthollet of three, Fourcroy of three, Morveau of two, and Monge of one. The book was then published with a refutation at the end of each section. The effect was precisely what might have been expected. The experiments of the French chemists appeared so accurate, their reasoning so precise, and their refutation so complete, that Mr. Kirwan himself, with that candour which always distinguishes superior minds, acknowledged himself overcome, and embraced the doctrine of his adversaries. This victory drove all the British chemists out of the field."

It is, however, added by Dr. Thompson, that " Mr. Cavendish had published a vindication of the phlogistic theory, which it was impossible to refute, and which the French chemists were wise enough not to notice."

For some time after this period, the chemists in every part of Europe were contented to receive their knowledge from French experiments, detailed in the French nomenclature. But " by degrees, the reverence, approaching almost to absurdity, which was paid to the French school, wore off, and the natural genius and invention of British philosophers began to appear."

After remarking, that as many of the celebrated men who have been actively engaged in restoring the dignity of British science, are still alive, it would be inconsistent with propriety to particularize the discoveries which have been the result of this happy revolution, the author proceeds to observe,

" But we may mention, that three distinct schools (if we may use the expression) have been established by three gentlemen, certainly not the least celebrated among British chemists. These are, Dr. Wollaston, who possesses an uncommon neatness of hand, and who has invented a very ingenious method of determining the properties and constituents of very minute quantities of matter.

"The second of these schools has been established by Mr. Davy, whose galvanic discoveries and analysis of the alkalies, have constituted a new era in the science, and furnished us with a totally new method of experimenting. Mr. Davy is the most active as well as celebrated chemist in Great Britain, and many more discoveries may be expected from him.

"The third school has been established by Mr. Dalton, who has not yet obtained that degree of celebrity in this country to which he is entitled, and which he will infallibly acquire. His atomic theory is one of the greatest steps which the science has yet made; and it appears to be established by the most indisputable evidence."

In concluding these extracts from Dr. Thomson's history, we shall only observe, that, in relation to chemistry, we think we have perceived a little of that spirit which has rendered the preface to his periodical work, the *Annals of Philosophy*, so obnoxious to the feelings of many.

We have before observed, that our readers cannot expect from us an analysis of this work. It is, itself, an abstract of the history of the physical sciences, connected with the discoveries of the illustrious men whose papers adorn the transactions of the Royal Society. We have noticed it merely to attract the attention of those who are engaged in the cultivation of physics, to a work, which should find its way to the library of every physician, gentleman, and general scholar. We indulge the hope that ere long it will be reprinted in this country.

ARTICLE XXI.

An Inaugural Dissertation on Angina Pectoris, submitted to the public examination of the Trustees of the College of Physicians and Surgeons in the state of New-York, &c. for the degree of Doctor of Medicine. By Henry Bogart, A. B. New-York, 1813. *pp.* 56.

In this Dissertation we have a handsome review of what others have written on the Angina Pectoris, presenting in one general sketch the essential parts of the several pictures, which have at different times been exhibited.

After adverting to the history of the disease, from the time it was first noticed by medical men, in which much research is manifested, the author neatly details its prominent symptoms. "The first symptom," says he, "is an acute pain, or stricture, commencing in the region of the sternum, and shooting with peculiar pungency in the direction of the pectoral muscle, confining itself chiefly to the left side, and sometimes affecting the left arm." This affection of the arm is compared by the patient to the rushing of a hot fluid; very often it is that of numbness only; but it is not essential to Angina Pectoris. The patient is usually seized while walking, or on going up an acclivity.

"This pain, or constriction, comes on in paroxysms, which, in the beginning of the disease, do not take place so frequently, or so intensely as when it is more advanced." After frequent repetition, the pain will remain "for some time, accompanied with oppressed breathing, anxiety, sighing, palpitation of the heart, and coldness of the extremities; an agonizing struggle for existence ensues, attended with an apprehension of instant death."

As to the diagnosis, he remarks, that "it would be difficult to express in a concise and accurate manner, the distinguishing character of the disease. It may be sufficient to state, that it consists in a sharp constrictive pain across the chest, which supervenes in general upon muscular motion." It is apt to be confounded with "asthma, hydrothorax, and those complaints which arise from organic affections of the heart. The first is characterized by frequent and short respiration, with a wheezing noise and cough; symptoms, which have never been observed in Angina Pectoris; the second is attended by a constant difficulty of breathing, which is increased on assuming the horizontal posture."

The causes of this complaint still remain in obscurity. They have eluded the patient research of the anatomist, and the ingenious guessing of the theorist. Dr. Bogart relates the most celebrated opinions, and combats, with much ingenuity, that of Dr. Parry, who considers the induration of the coronary arteries of the heart, producing a diminution of energy in that organ, as the cause of the disease. He objects to this opinion, 1st, that ossified coronaries have been found in cases of patients who had none of the symptoms essential to Angina Pectoris, and 2dly, that in a number of well distinguished cases of the complaint, the coronary arteries were found in their natural state. The cases alluded to are recorded by distinguished authorities.

It seems to be the author's intention to advocate Dr. Hosack's theory of this disease, viz. that it proceeds most generally from *plethora of the blood vessels, more especially from a disproportionate accumulation in the heart and larger arteries.*

The following summary of morbid appearances exhibited in the dissections of persons who died of Angina Pectoris, is an interesting document, and we extract it entire, as presented in the pamphlet.

"Aneurism, or dilation of the heart.

Smallness of the heart.

Flaccidity, and paleness of the heart.

Preternatural fatness of the heart, and pericardium.

Valves in different degrees of induration or ossification.

The aorta about its arch, dilated, weakened or ossified, or these states variously combined.

Water in the thorax.

Water in the pericardium.

Ossified coronary arteries.

"In four instances of the disease, the heart and aorta were found in a sound state. They surely prove, that Angina Pectoris may take place and terminate fatally without organic disease of any kind."

Dr. Bogart gives a concise account of the "respective modes of cure adopted by different writers," and concludes his interesting dissertation with a detail of the method pursued by Dr. Hosack, which is presented in the following extract.

"The remedies which he prescribes with most advantage, are those, which are calculated to diminish the fullness of the system; for this purpose he has recourse to copious and repeated blood letting, active cathartics, as jalap, calomel, gamboge, and other evacuants; and for the removal of the spasm, palpitation of the heart, and coldness of the extremities, æther, volatile alkali, the compound spirits of lavender and other diffusible stimuli, are exhibited. Opiates, by lessening, and occasionally suspending the spasm are also used with advantage, especially after blood letting has been freely employed. Warm bathing and friction of the extremities, from the experience of their beneficial effects, are also highly useful, by promoting circulation in the extremities, and a determination to the surface of the body, and thereby proportionally diminishing the fulness of the heart and larger vessels."

ARTICLE XXII.

An Inaugural Dissertation on the Eupatorium Perfoliatum, submitted to the public examination of the Trustees of the College of Physicians and Surgeons in the state of New-York, &c. for the degree of Doctor of Medicine. By Andrew Anderson, A. B. New-York, 1813. *pp.* 75.

Every attempt to investigate the properties and bring into notice the active medicinal plants of our native soil, will command a portion of public gratitude. The Eupatorium Perfoliatum had before been a subject of attention; but the author of this dissertation appears to have bestowed on it much labour and careful investigation, and we are indebted to him for a more full developement of its virtues, than has been before exhibited.

After stating its botanical character, he remarks, that it is familiarly known throughout the United States, particularly by the names "thorough-wort, Indian-sage, cross-wort, bone-set, vegetable antimony, &c. It is indigenous to this country, and may be found from Canada to the Floridas; it naturally delights in standing waters and in low marshy situations, and is sometimes seen to flourish near salt water. In New-York it grows from three to six feet in height.

Root, horizontal, fibrous, perennial.

Stem, upright, hairy.

Leaves, opposite, united at their base, serrated, growing narrower at their points, rough, downy underneath, slightly decurrent.

Foot stalk of the flowers, opposite, axillary, long, hairy.

Flowers, compound, terminal, white.

Seeds, oblong, feathery."

A number of chemical experiments instituted to ascertain the properties of this plant are related, and they appear to have been performed with much precision. The result is, "that the Eupatorium Perfoliatum contains, first, a free acid; secondly, tannin; thirdly, extractive matter; fourthly, a gummy matter; fifthly, a resin; sixthly, azote; seventhly, lime, probably the acetate of lime; eighthly, gallic acid, probable modified; ninthly, a resinifom matter, soluble in water, and in alcohol, and which seems to contain a bitter principle." Hence he concludes, "that this plant possesses active medicinal properties; that many of them are similar to those, which characterize the cinchona officinalis, the anthemis nobilis, and other valuable articles of the Materia Medica; but that these virtues reside in greatest quantities in the *leaves*."

As pharmacuetical preparations, he recommends "the decoction of the flowers and leaves; infusions of the same parts; the leaves in substance, pulverized; and a tincture of the flowers and of the leaves prepared with proof spirits. This last form is the most pleasant and convenient, and at the same time the most powerful. Its operation depends, in a very great degree, upon the particular form, in which it is administered. If exhibited in a warm decoction, it often proves emetic, and acts especially upon the skin, in producing diaphoresis; if it be given in either of the other forms, it acts as a powerful tonic."

Many opportunities have been enjoyed by our author of witnessing the effects of this plant in different diseases, and from his own experience, and from that of several distinguished practitioners, particularly of Dr. Hosack, he is led to believe it an important and efficacious remedy in the treatment of most febrile disorders, especially in intermitting and remitting fevers, yellow fever, &c. in many cutaneous affections, and in diseases of general debility. Several cases of intermittent fever are given in detail, successfully treated by this plant. In these cases the powder of the leaves was principally used, in doses of twenty grains every two hours.

The Eupatorium Perfoliatum held for a long time a very humble station, being estimated only by nurses and Indian women. It lately attracted the notice of men of high standing in the medical profession, was thought to possess important qualities, and announced to the public. The author of this dissertation has subjected it to a systematic investigation, and his work will do much toward giving it a permanent character.

The experimental course, adopted by the author of this dissertation, merits the imitation of enterprising students of medicine, who while they are fulfilling their academical duties, may acquire lasting reputation by contributing their labours to enlarge the public stock of useful knowledge.

ARTICLE XXIII.

[From the Edinburgh Medical and Surgical Journal.]

Medico-Chirurgical Transactions, published by the Medical and Chirurgical Society of London. Volume III. *8vo. pp.* 383; *with seven plates.* Longman and Co. 1812.

It has been a subject of frequent observation and regret, for which indeed there has been but too strong a foundation, that, with whatever portion of zeal the votaries of medicine have set forth in their professional career, they have too commonly sunk into mere practitioners, and have ceased to contribute their assistance to the improvement of medical science, in proportion as their opportunities and accumulated knowledge rendered them capable of supplying the defects and elucidating the obscurities of their art. Even the best efforts that have been made to bring the stores of experience before the public, seem to have been forced, and therefore transient,—depending in reality upon the personal influence and exertion of two or three active and zealous individuals. Thus to the indefatigable ardour of the first Professor Monro, the public is almost exclusively indebted for the commencement, and entirely for the continuation of the valuable collection of "Edinburgh Medical Essays and Observations," the first specimen of this sort of thesaurus ever published.* In like manner, the brief and transient activity of the College of Physicians, in London, which produced three useful volumes of "Medical Transactions," but which has produced nothing more of this sort during as many centuries, appears to have been suggested and carried into effect principally by the zeal of the late amiable and learned Dr. Heberden,† whose contributions to the stock of information were both numerous and valuable. And a third and highly valued collection of papers, the "Medical Observations and Inquiries," appears to have been the result of the united energies of Dr. Fothergill and Dr. William Hunter. The transitoriness of all these publications, therefore, has been only commensurate with that of individual life and strength; increased, in the first and last instances, by the privacy of the association which gave them birth; and, in the second, by the more important political duties of the corporation, which are, in fact, the sole objects of its constitution. It is, therefore, consolatory to observe a society which is instituted upon public principles that may lead to a more permanent establishment, and whose object is exclusively the furthering of medical science, proceeding with the energy and ability, which the speedy publication and valuable contents of this third volume evince,—an energy which appears to

> "Grow with its growth, and strengthen with its strength,"

and affords an earnest of a long-continued and fruitful harvest.

The volume opens with an interesting paper of Sir Gilbert Blane's, relative to intermittent and remittant fevers, and the exhalations which occasion them; being chiefly the result of his official investigation of the diseases, which occurred among the English troops in Zealand, in the autumn of 1810. Next to the able, elaborate, and comprehensive work of Dr. Bancroft, lately reviewed in this Journal,‡ the terse and sensible paper before us may be deemed the most satisfactory document extant upon the subject of marsh effluvia, and of the origin of the endemics to which they every where give rise; and the exact correspondence of the facts and inferences, collected by Sir Gilbert Blane, with those so satisfactorily stated by Dr. Bancroft, is gratifying to the mind that seeks anxiously for truth, amidst a mass of contradictory evidence. Sir Gilbert shews, that, notwithstanding the great extent of the sickness, which, at the time of his arrival, rendered two thirds of the army incapable of duty, typhus and dysentery had not appeared, except in one or two regiments situated in particular circumstances at Flushing: the whole of the patients were affected by the endemic of marshy districts, which had in a similar manner affected the French troops, who had occupied Flushing during the preceding seven years, and in former times also the Dutch troops from the northern parts of the United Provinces.

---

* See the Life of Dr. Monro, written by his son Dr. Donald, and prefixed to the posthumous edition of his works.

† Dr. Heberden has claimed the merit of this in the brief sketch of his own life, prefixed to his "Commentarii."

‡ On Yellow Fever, &c.

The same general facts, which have been observed under similar circumstances elsewhere, were here ascertained by Dr. Blane; and had been distinctly made out by General Monnet, during his long residence there, as was evinced by a *memoire* found in his house. These facts are, the greater liability of new-comers to be affected by the effluvia; and especially of those who come from mountainous and dry countries; the effect of warmth, good diet, and comfortable accommodations in securing individuals from their influence,—the short distance to which their influence reaches either in perpendicular altitude, or horizontally,—the more deleterious qualities of these effluvia than those of the marshes in England, and the progressive increase of malignity in the miasmata of more southern climates, —the long period during which the infection by miasmata often lies dormant, so as to be excited to action by fatigue or exposure to cold some time after the persons have removed to another country,—and the liability to relapse from the same causes,—and, lastly, the obvious connection of these remittents and intermittents with an excessive secretion of bile.

The following practical remarks, as they accord with the statements of the best writers on the *yellow* fever, and other forms of the remittents, deserves to be impressed upon the minds of all practitioners, who may have occasion to meet disease in marshy regions; the repetition of them, however, is, we trust, becoming every day less necessary, as the propriety of regulating the functions of the alimentary canal, and of avoiding stimulants in the early stages of *all* fevers, is daily more clearly perceived.

"It is evident," says Sir G. Blane, "that the severity of the symptoms of the Zealand fever, added greatly to the difficulty of the cure; and there could be *no opportunity* of employing Peruvian bark or other specific remedies, till its violence had abated, and the redundant bile had been carried off. The treatment of the acute state, consisted chiefly in giving such remedies as *purged freely;* and in selecting them, the preference was due to those which acted most readily on the liver and the bile, such as calomel;—those which were least heating, as the neutral salts; and such as were best borne by the stomach, which, in a great many cases, was extremely irritable."

The author bears strong testimony to the powers of opium and arsenic, in curing intermittents, and also remittents, when a complete intermission has been obtained by purgatives of calomel. He administered from thirty to fifty drops of the tincture of opium, a few hours *before* the expected paroxysm. "Sometimes the first administration of this stopped the paroxysm; but more commonly only alleviated it, and did not stop it till the second or third time." Arsenic was given in the intervals, especially where the stomach could not bear bark; and Sir Gilbert states, that he has made little use of the oxide of zinc, steel, &c. since he became acquainted with the superior powers of opium and arsenic. We shall have occasion to allude to the peculiar advantages of giving an opiate *previous* to the commencement of the paroxysm, in intermittent diseases, before we conclude this article.

We regret that the number of topics, pressing for notice, prevent us from following the author, through the remainder of this paper, and its appendix, which contain some interesting observations on the variations of health in this country in different periods of its history; these are, however, less original than the preceding portion of the Essay.

Mr. Chevalier has contributed three well detailed papers to this volume, the first of which is the "History of a remarkable case of Ovarian Dropsy," in a young woman, of twenty-three years of age. The enormous bulk of the abdomen, which measured sixty-three inches and a half in circumference, and contained (it is estimated) seventeen gallons of water, is the most extraordinary feature of the disease; and the great weight of the fluid was the principal inconvenience suffered by the patient: for the bowels continued regular, and the pulse and respiration were unaffected. An attempt to relieve her of this cumbersome load was made judiciously by moderate successive tappings; but one of two large cysts, connected with the left ovarium, was subsequently affected with a slow, but extensive inflammation, which ended her life in the space of two months.

In a second short paper, Mr. Chevalier describes "an improved method of tying diseased tonsils," which he illustrates by an engraving, representing the sort of noose which he employs. He *pierces* the enlarged tonsil through the middle of its base, and carries a long double ligature through it, which he brings out at the mouth, and divides, tying one portion round the upper, and the other round the lower half of the tonsil. This produces a good deal of inflammation for about three days; but the tumor is generally detached on the fourth or fifth day, and the sore readily heals.

Mr. Chevalier's third paper contains an interesting "case of spontaneous extravasation of blood, within the theca vertebralis, which soon terminated fatally." It occurred in a girl of fourteen, and was accompanied by pain in the back and head, with sickness on sitting up, and a quick pulse. At the end of about a fortnight, she complained of a sudden and violent increase of pain, and was immediately seized with convulsions, in which she expired. On examination, the brain and all the viscera were found to be healthy, and the spine was free from any external morbid appearance: but having cut away the bodies of the lumbar vertebræ, close to the seat of pain, Mr.

Chevalier discovered the spinal canal filled with blood. "The blood, though florid, was not all of an equal tint, it was very imperfectly coagulated; it is therefore probable that the vessel first gave way at the commencement of the illness, and again to a much greater extent at the time the convulsions came on." Mr. Chevalier mentions also the case of a child a year old, which, after being carried out by a nurse, returned in great pain, and appeared to have lost the use of its lower limbs. It died in three days, and the spinal tube was found filled with a bloody serum, probably "occasioned by slight extravasation from a strain, and subsequent inflammatory effusion." He likewise mentions the case of a miller, who suddenly lost the use of his lower extremities by lifting a heavy sack, and died in a fortnight. The vertebral canal was found to contain some blood mixed with a sanious matter, and the theca vertebralis was evidently inflamed.

These cases he considers as a sort of partial spinal apoplexy, which should be treated by early bleeding, in order to prevent the increase of the extravasation.

Dr. Merriman communicates two papers on obstetrical subjects, the first of which contains an account of "a case of difficult parturition, occasioned by a dropsical ovarium, forming a tumor in the lower part of the pelvis," intended as an illustration of a paper by Mr. Park, of Liverpool, published in the second volume of the Society's Transactions. This woman was parturient of twins, one of which was delivered after opening the head, the other, which was dead, by the natural efforts; but she died of subsequent peritonitis.—In such a case, the practice adopted by Mr. Park, of opening the impeding tumor, (which here lay between the rectum and vagina of the size of a trap-ball,) through the vagina, might have saved the life of one child and the mother. But Dr. Merriman enters into a discussion upon the question, of making an incision into those other tumors of the pelvis, which contain no fluid, but teeth and hair, &c. which are sometimes also impacted in the pelvis; and he concludes that an operation might still be practicable and safe, extirpating either the encysted mass, or the whole diseased ovarium.

The second paper of Dr. Merriman is entitled, "Cases of premature labour, artificially induced, in women with distorted pelvis, to which are subjoined some observations on this method of practice." This is a sensible dissertation on the subject of a practice, which has been occasionally adopted in this country for upwards of half a century, but which has been absurdly condemned by some individuals upon moral grounds. Its physical advantages being fairly estimated, and found to predominate greatly over those of every other proceeding, it were but a waste of words to argue in favour of the use of a practice, against which the possible immoral abuse can alone be urged. Dr. Merriman states the following among other rules by which the adoption of the practice ought to be limited. That the operation should never be undertaken,—till (1.) seven complete months of uterogestation have elapsed,—and (2.) till it had been ascertained by *previous experience* that the mother is incapable of bearing a full-grown fœtus alive,—nor (3.) when she is labouring under any dangerous disease. He suggests too that every care should be taken to guard against the attack of fever, which is not an unfrequent consequence of the premature uterine action; and "lastly, that a regard to his own character should determine the accoucheur, not to perform this operation, unless some other respectable practitioner has seen the patient, and has acknowledged that the operation is advisable."

Mr. Parkinson relates a case of disease in the appendix cæci vermiformis, which terminated in ulceration and opening, through which a fluid escaped into the cavity of the peritonæum, and produced a fatal inflammation of that membrane.

Two communications have been presented to the society by Mr. Lawrence, the first of which contains the history and dissections of five varieties of disease, partaking of a fungous character, and occurring in several internal and external organs of the individuals at the same time: some of them resemble the morbid growth, which Dr. Farre has described as the tubera diffusa, affecting the liver, brain, lungs, &c. The first case is related by Mr. Henry Earle; in which the disease occurred most conspicuously in the testicle; but was found on dissection both in the brain and the lungs. In the first of Mr. Lawrence's cases, the fungous growth, the most striking character of which was its "bright yellowish green colour, intermixed with more or less red, and a few portions nearly white," covered the chest, penetrating the pectoral muscles, and filling the axilla: it affected also the right pleura, especially over the diaphragm, and the peritonæum beneath it; it was found in the pancreas and kidneys, and very extensively in the lymphatic glands, in various parts of the body.

No inferences are attempted to be deduced from these singular and anomalous appearances, which can only cease to be anomalous, when the industry of practitioners shall have multiplied the number of records relating to them, and traced their common character.

The second communication from Mr. Lawrence, is a history of a case of a somewhat similar character with the preceding, in which the disease, lately called *fungus hæmatodes*, appeared also in various external and internal parts, and terminated fatally. It is related by Mr. Langstaff, of Basinghall Street.

Dr. Farre has given the detail of two cases of "cynanche laryngea," with that fatal variety of sore throat, which has not been sufficiently noticed until within these few years, when it deprived the profession of two distinguished members, Dr. Pitcairn, and Sir John Hayes, and has commonly been confounded with *croup*. The second case, in which life was obviously prolonged for a day by the operation of bronchotomy, we shall transcribe.

"A poor, but industrious and temperate man, about 60 years old, on Sunday the 31st of March, 1811, was affected with a painful and difficult deglutition. On the following morning, April 1st, alarmed at his inability to swallow fluid, which, on the attempt being made, returned by his nose, he sent for Mr. Weston, who found the tonsils inflamed and disposed to ulcerate. A brisk purge was ordered. At ten o'clock the same evening, his respiration suddenly became difficult, when Mr. Weston immediately drew from his arm 32 ounces of blood, which proved to be very sizy. In the course of an hour I attended, and observed the character of his disease at this stage. Although the tumefaction of the tonsils was inconsiderable, deglutition was extremely painful and very difficult: respiration was performed with convulsive and long-continued efforts; his voice was nearly inaudable, and he could only whisper. He answered my inquiry respecting the seat of his suffering, by putting his finger on the superior part of the thyroid cartilage. He felt no pain in the chest. All the muscles of respiration were thrown into violent action, and he lay with his mouth widely opened, pupils dilated, face pale and sunken, skin covered with a clammy sweat, and his pulse at 133 and small. His powers were prostrate, and general bleeding could not be repeated. The anterior part of the throat was covered with leeches; but the disease never paused. At midnight, the operation of bronchotomy seemed to be the only resource; and soon after one o'clock, I decided on its employment. About two o'clock, Mr. Astley Cooper attended, and as suffocation was instantly impending, the operation was immediately performed, by dividing, laterally, the ligament which connects the thyroid with the cricoid cartilage. The dyspnœa was much relieved by the operation. He now lay passive, breathing by the natural and artificial apertures, and the inordinate action of the muscles of respiration had ceased. He swallowed some nourishment with a painful effort. In this state he passed the night, and the greater part of the following day. In the afternoon, the respiration by the natural passage entirely ceased, but was continued by the artificial aperture. He was now evidently sinking, and expired at six in the evening.

"April 3d, eight o'clock A. M. Dissection by Mr. Astley Cooper. The right tonsil inflamed and vesicated; the epiglottis swollen, its edges meeting behind, excepting just at the upper part. Pharynx inflamed, somewhat vesicated, covered with coagulable lymph about the epiglottis, but free from inflammation near its termination in the œsophagus. The aperture which had been made between the cartilages, appeared to be about half the size of the glottis. The mucous membrane of the larynx and trachea was pale. There was some accumulation of mucus in the cells of the lungs, and a slight effusion of serum into their reticular texture. The left pleura partially adhered, and the cavities contained rather more fluid than is natural to them. The abdominal viscera were not examined.

"I may be allowed to remark," Dr. Farre adds, "that Cullen's character of his fourth species of cynanche, will not embrace the cases which I have above described. 'Cynanche (Pharyngea) cum rubore in imis præsertim faucibus; deglutitione maxime difficili, dolentissima; *respiratione satis commoda;* et febre synocha.' The anterior part of the pharynx was indeed the seat of inflammation; but that portion of the membrane being also common to the larynx, it may, in a practical sense, be useful to term the disease *laryngea*, because it proves fatal by constricting or actually closing the glottis, and constitutes precisely that case which, in its ultimate degree, imperiously demands the operation of bronchotomy."

The interesting conversation, which took place in the society when this paper was read, induced Dr. Farre to bring the subject forward again, in a paper printed in a subsequent part of the volume, in which he dwells principally upon the diagnosis and method of treatment of this insidious species of cynanche. The inflammation is most intense at, if not chiefly limited to the mouth of the larynx, whence the rima glottidis becomes so much narrowed as to impede respiration. It cannot easily be mistaken for cynanche tonsillaris; for the visible affection within the fauces is often extremely slight. The principal painful sensation is also felt in the larynx, or about the middle notch of the thyroid cartilage. The difficulty of diagnosis lies between this cynanche laryngea and croup. Dr. Pitcairn wrote on a piece of paper, that his complaint was croup. But, Dr. Farre observes,

"In the cynanche laryngea, the symptoms are, uneasy sensation in the larynx, difficult and painful deglutition, partial swelling in the fauces, a supervening and perpetually increasing difficulty of breathing, inflammatory fever. In the cynanche trachealis there is a difficulty of breathing, without any swelling in the fauces, or painful deglutition, the expirations, especially in coughing, are very shrill, the fever is inflammatory."

The morbid appearances, ascertained by dissection, are considerably different in the two diseases.

"In the former, (laryngea) the mucous membrane, investing the epiglottis and margin of the glottis, is inflamed; serum is effused under it, or coagulable lymph on its *external* surface, by which the *rima glottidis* is narrowed, or actually closed. In the latter, (croup) the mucous membrane of the larynx and trache is inflamed, and a layer of coagulated lymph is formed on its *internal* surface, from the extremity of the epiglottis to an indefinite extent within the trachea, by which *the tube itself* is narrowed or actually closed: a puriform fluid, instead of mucus, is found in the trachea and bronchia."

The treatment recommended appears to be judicious; namely, copious blood-letting in the first stage of the inflammation, i. e. within thirty hours of its commencement, when the patient feels uneasiness in the larynx, with a very painful and difficult deglutition, which the apparent state of the fauces cannot explain. But if this fail to relieve, and the dyspnœa supervenes, the narrowing of the glottis has commenced; and in this dangerous stage, in which effusion is going on, free local blood-letting, with calomel and tartarized antimony internally, to diminish the activity of the capillary circulation, are advised. But in the advanced period, bronchotomy affords the only chance of escape from suffocation, by enabling the patient to breathe, till the inflammation narrowing the aperture of the glottis may have time to subside.

"That the disease is a local one," Dr. Farre observes, "that it is acute and of short duration, that it affects a mucous membrane, which consequently does not readily take on the adhesive inflammation, or if it should be so acutely inflamed, easily sheds the lymph that had been effused on it, are circumstances which, in the otherwise hopeless state of the patient, justify a trial of this operation."

We have dwelt a disproportionate length of time on this topic, on account of the importance and novelty of the disease, which nothing but a sagacious and early discrimination, and an active employment of appropriate treatment, will enable the practitioner to manage with success.

Dr. Yelloly has related an interesting case of Anæsthesia, which sets at defiance all hypothesis, concerning the nature and communication of nervous influence. This occurred in a middle-aged man, who had spent many years in Jamaica. He gradually lost all sensation in a great part of the legs and arms, while the power of muscular motion, and the command of the will over the muscles, remained as usual; at the same time the circulation continued active, and the process of healing, when the parts were injured, was quick and natural. We shall quote a few symptoms.

"The hands up to the wrists, and the feet, half way up the leg, are perfectly insensible to any species of injury, as cutting, pinching, scratching, or burning. The insensibility, however, does not suddenly terminate; but it exists to a certain degree, nearly up to the elbow, and for some distance above the knee. He accidently put one of his feet, some time ago, into boiling water, but was no otherwise aware of the high temperature, than by finding the whole surface a complete blister on removing it. No species of injury to a vesicated part is felt by him. The extremities are insensible to electrical sparks, taken in every variety of mode. The cubital nerve, where it passes the elbow, communicates the sensation produced by pressure or a blow only half way down the fore-arm."—"If he wishes to ascertain the temperature of any body, he is under the necessity of putting it to his face, or neck, or the upper part of his arm."

Yet there is an unusual irritability of the skin, especially under the influence of heat. For

"On putting his hand, at the desire of a friend, into a pail of hot grains, which his friend assured him were not too hot, and to convince him of this, previously thrust his hand and arm into it, there was a very extensive vesication produced. His hands are never free from blisters, which he gets by inadvertently putting them too near the fire; and he has met with several severe burns, without being aware of it."—"His skin, in general, heals very readily, after being burnt or scalded in the most severe way; and there is no fever, nor is there, as far as he has been able to determine, any increased heat or throbbing during the process of healing."—Yet "immersion in water at 120 degrees produces no change in the affected parts; but exposure to the same temperature at a common fire speedily blisters."—"Cold water and warm water of every temperature invariably appear lukewarm to him."—"The power of motion exists in the muscles of both hands and feet. With the former he can grasp pretty firmly; but in holding any thing he is apt to drop it, if his attention is at all called away."—"The functions are natural, and the pulse regular and moderate."

The insensibility exists in the muscles as well as integuments; for he allowed the fleshy part of the thumb to be pierced to the bone by a couching-needle, from which he experienced no sensation whatever. No treatment, such as the warm bath, electricity, galvanism, tonics, rhus toxicodendron, and mercurial purgatives, produced the least influence on the disease.

Dr. Yelloly has added two analogous cases, one from the American Medical Repository, Vol. IV. p. 225, and another from the "Philosophie Zoologique," Tom. II. p. 262, of Lamark.

Dr. Bree communicates another "case of splenitis, with further remarks on that disease," which, like the instance related in the preceding volume, evinces the advantage of a steady purgative course in such affections. And Mr. Copeland describes the case of a lady, who had an abscess in the groin, from which a calculus was extracted, after it broke, of an oval form, and more than half an inch in length. This was not a biliary calculus, like that discharged in a case related by Petit, to which Mr. Copeland refers; but was found by Dr. Marcet to be of the fusible kind, consisting of the mixed phosphat of lime and ammoniaco-magnesian phosphat.

Two contributions of Dr. Bostock are characterized by the usual accuracy and perspicuity, which mark every production of his mind. The first consists of some very interesting and novel "observations on diabetes insipidus." The existence of such a disease has of late been doubted, or altogether denied, the mere quantity of urine being considered as depending upon circumstances altogether different from the true diabetic diathesis. But although there was no saccharine matter in the urine of the patient, whose case is described by Dr. Bostock, he found, upon chemical examination, that it differed materially from healthy urine, inasmuch as it contained a very large proportion of animal matter. The residuum, left by slow evaporation of the urine, did not differ, in its physical properties, from the extract of healthy urine. But Dr. Bostock calculates, that, while his patient was passing 7 pounds troy of urine more than the average healthy quantity, she was discharging daily between 9 and 10 ounces of solid matter, or about 8¾ more than in the healthy state; i. e. above six ounces of urea, and 1½ of salts, more than natural.

To this case, therefore, though no sugar existed in the urine, Dr. Bostock conceives the appellation of diabetes is strictly applicable.

"It possesses the three pathognomonic symptoms of the disease, the increased appetite for food, the suppression of the cutaneous discharge, and especially, the evacuation from the urinary organs of a larger quantity than ordinary of animal matter. This latter circumstance is essentially different from the mere increase in the quantity of water, a morbid state which has often been confounded with diabetes, but from which I regard it as totally dissimilar."

Dr. Bostock states a question, whether this disease is the commencement of diabetes mellitus, or has a tendency to terminate in it? which he is disposed to answer in the affirmative; more particularly from the consideration of a case communicated to him by Dr. Lewin. Shrewdly suspecting diabetes from some other symptoms, Dr. Lewin examined the urine, and found it copious; a specimen was sent to Dr. Bostock for examination. There was at this time no sugar; but the urine being again submitted to chemical examination, at a subsequent period, was found saccharine.

"To Dr. Lewin's sagacity in detecting the nature of the disease in this early stage," Dr. Bostock observes, "we may consider ourselves as indebted for the important fact, that a small quantity of sugar can exist in urine along with a large quantity of urea. The case is almost equally decisive in favour of the conversion of insipid, into the saccharine diabetes, and renders it probable that the two states alternate with each other, until, as the constitution becomes more and more impaired, the saccharine state of the urine predominates."

We cannot omit the following statement.

"With respect to the *treatment* which was adopted in this case, I shall make only a very few remarks. As the urine was not saccharine, animal diet was not prescribed, and those remedies only employed, which were supposed to have the power of strengthening the digestive organs, and reproducing a healthy state of the skin. For the former purpose, the preparations of iron were chiefly relied on, and for the latter the warm bath; but I suspect that the morbid symptoms were so far connected, that whatever tended to relieve the one, was likewise beneficial to the other. The result was completely successful; the constitutional affections disappeared, the urine was reduced to the natural standard, and the surface regained its healthy action. The patient has remained well for above twelve months."

The second communication of Dr. Bostock is an account of some analytic "experiments on the bark of the coccoloba uvifera," the extract from which is of a similar nature with the kino used in medicine; but the latter is obviously derived from a different plant. In 100 parts of this bark, there are 50 of woody matter, 41 of tan, and 9 of a balsamic substance.

This volume contains a valuable chemical memoir from the pen of Dr. Berzelius, the intelligent professor of chemistry at Stockholm, who spent the autumn of 1812 in this country: it relates to "the composition of Animal Fluids." As this memoir is itself a condensed summary of several publications, and occupies about eighty pages, we cannot here enter into a minute account of its contents. We may merely observe, that it commences with an analysis of bullock's blood, detailing the chemical properties of all its component parts, such as the fibrin, the colouring-matter, &c. and entering minutely into the investigation relative to the influence of iron in the latter, and then comparing the same parts of human blood, which differs in some respect from that of bullocks. The author then passes to the chemistry of *secreted* fluids, which he discusses generally and individually, including the bile, saliva, the mucus of various membranous organs, the fluids of serous membranes, and the humours of the eye; and afterwards examines the *excreted* fluids, perspiration, urine, and its depositions. He concludes with an analysis of milk. Prof. Berzelius appears to have carefully compared and repeated the analysis of other chemists, on whose inferences he comments with great ability; and on the whole has presented a clear, original, and compendious view of the chemistry of the animal fluids. It tends greatly to establish the value of the recent chemical investigations on these subjects, to observe the accurate coincidence of these analysis, made in a distant country, with those of Dr. Marcet and Dr. Bostock, previously made here; for the difference between them is but in the fraction of units.

Through the hands of Dr. Marcet, by whom the paper just mentioned was introduced to the society, another curious memoir, was drawn up by the patient, R. C. Esq. F. R. S. a well known chemical philosopher, is presented in this volume. It relates to a new mode of curing chronic rheumatism, especially sciatica, which Mr. C. borrowed from *the stable*, after having exhausted, during a series of years, all the expedients of the materia medica, both regular and empirical. After a short history of years of lameness and suffering, and vain efforts to obtain a cure, the writer states:

"Happening about five weeks ago to hear of a case, which bore a strong analogy to my own, though the subject was not a human creature, it suggested to me an experiment which I resolved to try immediately. A celebrated race-horse (Vandyk) belonging to a nobleman very well known at Newmarket, had been cured of a disorder, which had all the symptoms of rheumatism, by *sweating in body clothes*, after every other remedy had failed. I therefore clothed myself in a sufficient quantity of flannel, and set out to walk as far and as fast as I could.

With the utmost difficulty I proceeded half a mile; and the pain I suffered contributed not a little to the effect of the exercise in promoting perspiration. I returned home in a profuse sweat, rubbed myself dry before a fire, and went to bed. In about an hour I got up, found myself very much fatigued, but in other respects not worse. Forty-eight hours after this, I repeated the same kind of exercise, and found that I could walk a mile with as much ease, as I had walked half that distance on the first day. My general sensations were the same as before; but, as the fatigue diminished, I thought I could perceive an amendment in my rheumatic pains. Two days afterwards I took my third walk, proceeding as before, and after it I had a better night, less interrupted by pain, than any I had enjoyed for eighteen months. From that moment I looked forward with confidence to a cure, and I have not been disappointed. Every succeeding walk has diminished my sufferings, and I may safely say, that after the sixth, I was as free from pain as I had ever been in my life. The only remnant I have left to remind me I was so lately a cripple, is a weakness in the left leg," &c.

Some good physiological inferences are attached to this relation. The body-clothes are fully described, and the gentleman would have out-done the grave-digger, in Hamlet, in the number of flannel-waistcoats and drawers which he pulled off on returning from his walk.

The volume contains three other papers; one from Dr. A. P. Wilson Philip of Worcester, detailing a severe case of disease in the organs of respiration, with the dissection;—a brief chemical notice by Dr. Marcet, respecting the use of the nitrat of silver, in detecting minute portions of arsenic;—and lastly, the "history of a case of remitting ophthalmia, and its successful treatment by opium," by Dr. Curry, of Guy's Hospital. This history is detailed with all the minuteness and point, which an acute medical observer might be expected to impress upon the relation of his own case. The principal circumstance illustrated by this case, is the important relief obtained by a full dose of opium, given *previous* to the exacerbation, in a most violent, painful, and alarming degree of ophthalmia, which was remittent, and recurred in daily paroxysms, after copious local depletion had been employed in vain. It was further proved, that the opiate, taken *after* the paroxysm had begun, aggravated its violence and lengthened its duration. This is perhaps a matter of general occurrence in intermitting diseases; the same anodynes and stimulants which will diminish or altogether prevent a paroxysm, if administered a short time previous to its occurrence, will both augment and protract the evil, if given during its existence.

It will be obvious, from this analytical review, that the contents of this volume are both curious and interesting. Some want of care is manifest in the printing of it; for there are several unfortunate, though perhaps obvious, typographical errors: such as *carved* for curved, in the description of an instrument, (p. 81.);—Dr. Bostock's patient passed "solid *water*," (matter?);—and he removed the subject of his experiment "from the *lump*" (lamp?) Mr. Parkinson's paper is omitted in the table of contents; and there are some more trivial oversights.

ARTICLE XVIII.

(Continued from page 304.)

Practical observations on Ectropium, or Eversion of the eyelids, with the description of a new operation for the cure of that disease; on the modes of forming an Artificial Pupil and on Cataract. By William Adams, Member of the R. College of Surgeons in London, &c. p.p. 252.

The second chapter on artificial pupil, concludes in the following manner:—

In the description of the different operations for artificial pupil, I have confined myself to the recital of facts ascertained by my own experience. It will be obvious that I have assumed the existence of circular and radiated fibres in the iris. This opinion, though supported by many eminent anatomists, is not generally considered as established. But it is foreign to the plan of the present work, to discuss any theories upon the subject, for whatever may be the result of anatomical observations upon this question, the practicability and success of the operations, as illustrated by the cases referred to, will stand upon the evidence of facts against all hypothetical reasoning."

The third and last chapter is dedicated to cataract, of which our author has taken a very comprehensive view, enumerating all the varieties of this morbid affection, and also describing instruments and particular modes of operating, adapted to each of the different species of the disease. Mr. Adams says,

"In this, as in the two former chapters, I shall confine myself as much as possible, to the recital of various facts and observations which have occurred to me in the course of my practice, and only add what is necessary for their elucidation."

It were a consummation devoutly to be wished for, that all writers who profess to write practically, would follow the same plan.

After describing the appearance of cataract in its different stages, Mr. Adams states it as his opinion, that the disease is hereditary, unless where it proceeds from accident, or from inflammation. In support of this assertion, he quotes the opinion of various authors, and adduces many very extraordinary facts which have occurred in his own practice. One of these was his operating on one of seven children, five of whom had congenital cataracts, and whose father and grand-father were both born blind of the same disease. Richter knew it happen in *four successive generations*, and these were not congenital cataracts.

Syphilitic inflammation is reckoned one of the causes of cataract, in which species of the disease our author contends that the opacity is always at first confined to the capsule of the lens, though it may afterwards extend to the crystalline itself; and gives his opinion that it is only in this species of cataract that mercury has been found useful. He seems also to think that *no external application* possesses efficacy in curing the cataract in those cases where Mr. Ware has supposed either to have been successfully applied. Mr. Adams remarks, that, as the opacity of the lens was in those cases produced by accident, it is more probable, that the capsule, being ruptured (thereby causing the disease) it underwent a spontaneous cure, by becoming dissolved in the aqueous humour and absorbed.

He mentions a case of this kind which occurred to one of the patients in the West of England Eye Infirmary, to whom, while waiting the gradual absorption of the cataract, he merely gave some calomel water as a collyrium, to convince the clergyman of the parish where the patient resided (and whose daughter, afflicted with congenital cataracts, had been advised by Mr. Ware to make use of ether to her eyes) that he was correct in attributing the cure which he predicted, solely to the aqueous humour. Mr. Adams quotes part of Mr. Cline's Lectures on Cataracts, to prove the very great solvent powers which the aqueous humour possesses, dissolving the hardest substances when exposed to its action. The fact is so extraordinary as to be scarcely credible, were it not asserted on such undoubted authority, being no less than the dissolving of part of a knife, which, during the operation of extraction, broke off in consequence of a violent spasm of the muscles of the eye-ball, and stuck to the inside of the cornea. This important fact must remove from the most sceptical mind, any doubts of its power in dissolving the hardest cataract, when it is previously treated in the manner our author describes. Mr. Adams supports his opinion by the authority of Celsus, Bannister, Pott, Hey, and Scarpa, and mentions, as a conclusive authority, that Mr. Ware, since he saw him operate, has entirely changed the opinion given in his works on diseases of the eye, on the propriety of postponing any operation for cataract on children born blind, until they should have attained an age to understand the necessity of keeping their eyes steady, (the operation of extraction being impracticable at an early age,) and, on the contrary, in a recent publication, strongly recommends Mr. Adams' operation for infants and young persons. In this publication, Mr. Ware certainly gave a decided preference to the operation of extraction, when the disease attacks adults or aged persons; but as it appears he was then unacquainted either with the operation or the instrument which Mr. Adams recommends for the cure of cataract in old people, both of which are different from what he saw in the operation, Mr. Adams liberally invited him to witness. Mr. Ware was certainly premature in giving so decided an opinion to the public on the comparative merits of the two operations. Indeed, by a case adduced, he seems to have since successfully adopted, for an adult, the practice which he had previously condemned. Although, by his recent change of opinion, Mr. Ware tacitly confesses the superiority of Mr. Adams' operation, still we should have been glad to have seen the acknowledgment from the pen of that eminent oculist, in return for the liberality with which that gentleman demonstrated before him, a practice which, till then, Mr. Ware acknowledged he was entirely unacquainted with.

The second section contains a description of instruments for the operation of the different species of cataract, and of the after-treatment to be observed. Our author commences with the following judicious remark:

"Though a skilful operator may, doubtless, by his superior manual dexterity, supply many deficiences in the form of his instruments, yet I conceive it to be incumbent on every surgeon, after he has determined on the mode of an operation, to consider attentively whether the form of the instrument generally used, is well calculated to accomplish his object, or if it be capable of further improvement. This observation, though applicable to every operation which falls within the province of surgery, applies more especially to those intended to remedy the diseases of an organ of such extreme delicacy as the eye."

Mr. Adams comments on the different instruments recommended by Mr. Hey, Professor Scarpa, Mr. Saunders, to which he objects, as being ill calculated to accomplish his modes of performing the operations. He then describes his own two-edged needle for the cure of the solid cataract in children and adults. For the capsular cataract he prefers his curved pointed knife, which is much less bent than that of Professor Scarpa. The knife our author uses in the hard cataracts of old people, is the same as that he employs for the formation of the artificial pupil, only it is narrower. Mr. Adams describes the form of a new speculum for fixing the eye, which we agree with him in thinking much better calculated for the purpose than that of Pellier's, which is generally used. We give his own description of this instrument, of which there are two views in neat engravings.

"The speculum of Pellier is, I believe, very generally used in this operation, but the patient often complains more of the pain caused by it than by the needle. This appeared to me to arise from the segments of two spherical bodies, nearly of the same magnitude, being in contact, by which all pressure is confined to a single point. Sufficient controul over the action of the muscles of the eye-ball, can, therefore, only be obtained by using a degree of compression, which gives great pain during the operation, and sometimes produces a contusion of the coats of the eye, which I have seen excite and keep up considerable inflammation for some time. It is, therefore, evident, Pellier's speculum is not well adapted for the intended purpose. The principle which ought to be kept in view, in the construction of an instrument for fixing the eye, when the needle is used, is to divide the necessary pressure on as large a surface as possible, instead of confining it to a single point. To effect this, the bearing part of the speculum should be concave, and accurately adjusted to the convexity of the eye-ball, whereby the assistant or operator has much more command over it, and the ill consequences, I have just mentioned, are avoided. When a student at St. Thomas's Hospital, about six years since, I caused an instrument of the above description to be made of silver wire, similar to that employed in the construction of Pellier's speculum; but it failed to answer the intended purpose, as the curvature was irregular, and did not correspond with the convexity of the eye; its angles were besides so obtuse as to prevent it from being easily inserted underneath the lid. Disappointed in my expectations, I have since had another made of solid metal, which possesses the advantage of a perfectly smooth and regular surface. The bearing part is so formed as to make an equal pressure on somewhat less than one third of the circular outline of the eye-ball; but, as this varies in different patients, the operator should always be provided with two or three instruments of different sizes."

All the species of cataract usually met with in practice, are noticed under separate heads, and our author has, with great ingenuity, adapted operations to each, according to its greater or lesser solidity and complexity. The operations described, are those for the solid cataract in children and adults, for fluid cataract, capsular cataract, adherent capsular cataract, solid cataract in old persons, adherent lenticular cataract, and capsular opacity with a transparent lens. As the modes of conducting the operation in these various species of the disease, as well as the instruments employed, differ materially from one another, it would be an injustice to our author to state any part without giving the whole, which our limits will not permit: we therefore refer our readers to the work itself.

An object of considerable importance has been accomplished by Mr. Adams, namely, that of ascertaining the characters and appearance of opacity in the posterior portion of the capsule of the crystalline lens, when this body itself, and likewise the anterior portion of the capsule, is transparent. He adduces two cases of this kind where he has effected a cure: one of these in a gentleman blind for eighteen years, and who had been considered by Mr. Ware to labour under amaurosis; the second, another gentleman blind for seven years from the same cause, and being a resident in London, had doubtless consulted the most eminent oculists; but the real nature of the disease was not ascertained till Mr. Adams saw him.

The last division of this section, is devoted to a description of the treatment proper to be pursued after the various operations.

Section 3d contains general observations on the different operations described, and shows, by the result of comparative trials, their superiority over all other modes of operating by the needle. The fundamental principle of our author's practice appears to be the bringing forward into the anterior chamber as many as is possible of the segments of the cataract, or even the whole of the lens after its nucleus has been divided, where its solution is found to be far more speedy than when suffered to remain *in situ*, and less inflammation succeeds the operation. By these means Mr. Adams generally succeeds at the first operation, and the inflammation in children is seldom so great as to require general depletion, and is easily removed in adults; whereas, when he performed the posterior operation of Mr. Saunders, he frequently found it necessary to repeat the operation four or five times, which was often succeeded by severe inflammation. To place in a strong point of view the effects produced by the different operations, our author claims particular attention to some cases detailed at full length, the heads of which he gives in the following words.

"It will be seen, by the case of Taylor, (No. 36) aged 72, that, in the left eye, in which the nucleus was divided and placed in the anterior chamber, the whole of the cataract disappeared without any bad symptom, in less than ten weeks; while in the right eye, where the lens was placed entire in the anterior chamber, it was nearly six months in dissolving, and great part of that time the patient suffered exceedingly from pain and inflammation."

"Mr. V's. case (37) by two operations had the greater part of the anterior portion of the cataract sliced off, and placed in the anterior chamber, where it became absorbed in as short a period as usual; yet nine months after the first operation, it was necessary to extract the solid nucleus which remained undivided behind the iris."

"In the case of Col. B. (38) although the cataract, denuded of its capsule, had been exposed to the action of the aqueous humour nearly five months, and subsequently remained in the anterior chamber for several weeks, yet the nucleus being undivided, it kept up a considerable degree of irritation, and in seven or eight months after the operation, required to be extracted."

"In Mr. C's. case (39) the cataract was of that favourable consistence which admitted of being at once very freely divided, and with so little pain, that the operation was finished without his being sensible of its commencement; yet, as the fragments were not placed in the anterior chamber they excited so much inflammation by their unequal pressure on the posterior part of the iris, that the destruction of the eye, or closure of the pupil, was prevented only by the most active antiphlogistic plan. These unpleasant consequences are happily contrasted in the following cases."

"Mrs. H. aged 40, (case 42) in whom the cataract was of an unusually large size, and so hard that it could not be cut in pieces, but was merely divided in halves, and with the anterior part of the capsule placed in the anterior chamber, where they became absorbed in little more than five weeks. During this period, it was only necessary once to apply a few leeches to the eye-lids."

"In Anne Shee, aged 64, (case 46) the nucleus of each cataract remained behind the iris, deprived of its capsule and anterior part for ten weeks, without apparently diminishing in size, when, being freely divided by a second operation, and placed in the anterior chamber, each were in a fortnight, almost completely dissolved, and the patient could then read the smallest print."

"The case of John Herbert, aged 40, (case 41) will be found the most striking and instructive. In his left eye, the cataract, which had existed for nine years, was divided into three or four parts, and the whole placed at once in the anterior chamber, where, without one unfavourable symptom, in five weeks it had entirely dissolved: in the other eye, one half of the cataract being also placed in the anterior chamber, had disappeared in about six weeks; while the other half, which remained behind the iris, was not completely absorbed in thirteen or fourteen weeks, during the latter part of which time it kept up almost constant, irritation and inflammation in the eye, requiring repeated blisters, purgatives, &c. &c."

Mr. Adams' observations on these facts appear to be so just, that we shall insert them instead of our own.

"The above cases clearly manifest that the quick solution of the lens, when thus divided and placed in the anterior chamber, prevents any considerable and continued inflammation: the necessity of repeated operations is also prevented. It is certain that a considerable degree of danger exists often, if the lens is suffered to remain behind the iris after it has been freely divided; and if it be not divided, whether it remains behind the iris, or in the anterior chamber, it will be indissoluble for a very considerable time, and not unfrequently require extraction. The inflammation resulting from an undivided lens, when placed in the anterior chamber, seems to arise more from long continued friction, than from the pressure of a large lens, as is particularly shewn in case 36, where the patient's sufferings seemed much greater when the cataract in the right eye was reduced to a flaxseed, than it was at first. In cases of the hardest cataract, and of the largest size, there is seldom any inflammation for the first three or four weeks after it has been placed undivided in the anterior chamber. During this period, its circumference and external surface dissolve as speedily as can be wished; but the solid nucleus alone remaining, the irritation then commences: the ill effects may, however, be avoided by the division or entire removal of the solid central part of the lens through a puncture in the cornea."

Mr. Adams' modes of practice are applicable to all ages, and appear to have been remarkably successful under congenital cataract, of which description of patients he has operated with the most successful result upon more than seventy persons, labouring under double congenital cataracts, and has never failed but on two eyes, the pupils of which became obliterated in consequence of imprudent exposure to cold after the operation was perfectly executed. This is a success which would be accounted great in the most simple operation; it is therefore highly gratifying to find that one which has hitherto been considered the most difficult and uncertain in surgery, should have been brought to such a degree of perfection, and by means so little painful, as often to be performed even without the patient being sensible that it was begun. Our author, however, guards the operator against the mischiefs which may result from the attempt at the first operation to cut in pieces an opake lens in old persons, where its solidity forcibly resists the passage of the needle, as the action of the instrument may separate the capsule from the zona ciliaris, when the cataract will become partially depressed in the vitresus humour, turn round and press with its posterior convexity against the iris; or it will pass through the pupil into the anterior chamber. He then adds, "All these accidents occurred in my early practice, until experience enabled me to judge before the operation, from appearances, what might be the species of cataract and its degree of hardness."

It would be well if all authors on surgical works were equally candid in acknowledging the difficulties unavoidably attendant on the perfecting a new practice, as it would point out to others in what manner they were to be guarded against and surmounted.

Mr. Adams strenuously recommends his modes of operation in preference to those of depression and extraction, as not only applicable to every species of cataract, which is not the case with either of those operations; but as being also exempt from the causes of failure which have contributed to bring them into disrepute, namely, the return of the lens to its situation, even after a lapse of years after depression, and the escape of the vitreous humour (even some days) after the operation of extraction, thereby causing the total loss of the eye or an obliteration of the pupil. These accidents are not under the control of the surgeon, and have occurred in cases where the operations have been executed with the greatest prospect of success.

The unexampled success which our author experienced while surgeon of the West of England Eye Infirmary, seems most fully to bear him out in the preference he gives to his modes of operation; as he states in a note, that "during his residence at Exeter, he operated, in succession, on forty persons of different ages, suffering under cataract, without experiencing a single failure."

Taking into account the contingencies to which the two operations of depression and extraction are liable, and which cannot be prevented by any degree of skill in the operator, we certainly are disposed to prefer the modes which Mr. Adams recommends, as they appear to us, while exempt from these dangers, to possess the advantages of both operations, namely, the facility of execution in the one, and in the other the certainty of a complete removal of the disease; indeed, in this respect, it is even more secure, as, from the capsule being cut up and absorbed, as well as the lens, not only is secondary cataract prevented, but also another cause of obliteration of the pupil, both of which frequently succeed the operation of extraction, even in cases unattended with any discharge or loss of the vitreous humour.

After pointing out the advantages of an early operation on patients afflicted with congenital cataracts, which our author proves may be successfuly performed considerably under the age of twelve months, he gives some original observations on the different causes which retard their acquirement of the knowledge of visual objects after the cataracts have been removed, and points out some very ingenious means by which persons so circumstanced may be materially assisted in their progress of education.* Mr. Adams' observations tend, in a great degree, to confirm those made by Cheselden, but he has inquired much farther than him into the causes of the curious phenomena observable in persons born blind of cataract, when cured. The chapter concludes with a very deserving eulogium on the late Mr. Saunders, to whose instructions, as having been his friend and liberal preceptor, our author modestly attributes the information which led to the invention of the operations which are the subject of his work.

---

* Having experienced the disappointment mentioned by Mr. Adams, as to the degree of vision enjoyed by patients successfully operated on for congenital cataract, we think it useful to add the methods proposed by him for remedying the difficulty. *Ed. N. E. Journal.*——"To correct the rolling motion of the eyes, and to acquire the power of keeping them steady, the patient, after being fitted with spectacles, should be made to look steadily on one object. The muscles of the eye and the organ itself will soon become fatigued with this exercise; but it should be daily continued, with proper intervals, by which the power of fixing the eyes will be rapidly increased. He should be made also to pick up small objects, such as grains of rice, &c.; this is also particularly useful, as it will en-

In a postcript are added some observations, in order to prove that the symptoms which hitherto have been usually considered diagnostic of amaurosis, in reality are not so, but frequently proceed from the retina having remained unexercised for a considerable time, in consequence of the existence of cataract. In proof of which, Mr. Adams adduces several cases where his operation was successfully performed after the patients had been blind for a great number of years, and had been considered incurable by the most eminent oculists in the metropolis, who had pronounced them labouring under amaurosis.

able him, in time, to judge of the distance of objects, of which he is at first ignorant.—Letters of a large size should next be cut on pasteboard; as these are capable of being examined by the touch as well as sight, they will begin to afford him a knowledge of different forms and shapes. The propensity to indolence and want of exertion in congenital patients, even in children, is often so great, that the preceptor will often have considerable difficulty in making them apply daily, as long as is necessary; but this must not tempt him to any relaxation in the system."

INTELLIGENCE.

MEDICAL LECTURES.

The winter course of Lectures in the Medical Institution of Harvard University will commence in Boston, on the first Wednesday in November, and continue daily for three months. These Lectures are so arranged as to comprize a complete course of medical instruction, except in Botany and Midwifery, on which subjects there are separate Lectures given in Boston. The Professors have been desirous of condensing the different parts of medical knowledge as much as possible, in the three courses required for a medical degree, as well with the view of saving time, as expense to students of medicine. No pains have been spared to render the establishment perfect by the addition of all those auxiliaries, which are known to be useful. There is an extensive collection of anatomical preparations, a valuable library given by Ward N. Boylston, Esq. and a clinical school, where may be seen cases of actual disease and of practice, both in medicine and surgery. Besides these, there are various other means of improvement, which with those mentioned above, will afford the industrious student an opportunity of employing his whole time, in the acquisition of important professional knowledge.

Anatomy and Surgery, by	Dr. Warren, and Dr. Warren, jun.	$ 20.
Theory and Practice of Physic and Clinical Medicine,	Dr. Jackson,	$ 15.
Chemistry and Materia Medica,	Dr. Dexter, and Dr. Gorham.	$ 15.

Medical Graduates in Harvard University.

The public examination for the degree of Doctor of Medicine, was held in the Philosophy Room at Cambridge, on Friday, the 21st of August; where those candidates who had been previously approbated at a private examination, read and defended their dissertations in a manner highly honourable to themselves and to the present state of medical improvement in the country. Having been fully approbated, the following gentlemen received the degree of Doctor of Medicine at the public commencement. The subjects of their dissertations are annexed:—

Benjamin D. Bartlett, A. M. of Concord, County of Middlesex—" *On Digestion.*"

George Bates, of Boston—" *On Dysentery.*"

John B. Brown, A. M. of Boston—" *On Respiration.*"

Paul Deane, of Boston—" *On the medicinal effects of Polytrichum perigoniale.*"

Amos Farnsworth, of Groton, County of Middlesex—" *On Pneumonia.*"

John Gardner, A. M. of Cambridge, County of Middlesex—" *On some laws of excitability.*"

Enoch Hale, of Gardiner, County of Kennebeck—" *On Animal Heat as connected with Respiration.*"

John Manning, A. M. of Gloucester, County of Essex—" *On Animal Heat.*"

George W. May, A. M. of Boston—" *On Phthisis Pulmonalis.*"

Jonathan G. Johnson, A. M. of Newburyport, County of Essex—" *On Dropsy.*"

William Richardson, of Bristol, Rhode-Island—" *On Hemoptysis.*"

William J. Walker, A. M. of Charlestown, County of Middlesex—" *On Epilepsy.*"

* * *

Honorary degrees of Doctor of Medicine were conferred on

Amos Holbrook, of Milton, *Fellow and Counsellor of the Massachusetts Medical Society*; and

David Townsend, A. M. of Boston, *Fellow and Censor of the Massachusetts Medical Society.*

Plates of the Arteries.

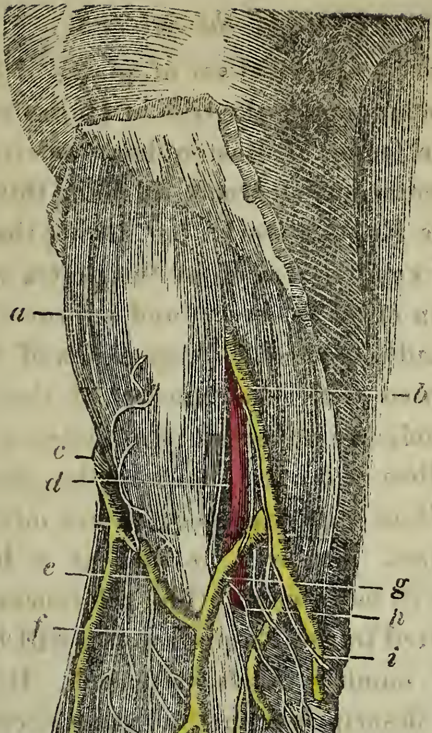
Sometime since a beautiful set of plates of the arteries was published in London, under the title of Haller's Icones reduced. An ingenious gentleman of Boston has undertaken to engrave the same representations on wood. In doing this, he has not servilely copied the English work; but taking that for his guide, he has carefully compared each of the plates with the original ones of Haller, in order to correct and improve those parts that are inaccurate and imperfect. A specimen of the result of his labours is presented with this number of the Journal, which will give the public an opportunity of judging of their merit. This is the smallest and least showy of the plates; but neither this nor any of those hitherto executed are inferior in utility to the English plates, and will be sold at a less price. The whole number will be fifteen. The references, which are exceedingly neglected in the English work, will be carefully corrected and their number much increased. It is proposed also to improve the descriptive part by some necessary additions. This publication will be a valuable acquisition to all practitioners, who perform surgical operations, presenting them in a small compass, with a sufficiently minute view of all the arteries in the body.

The plate is a representation of the arm, with the veins which are opened in bleeding. The vessel, coloured red, is the Brachial artery where it runs near the tendon of the Biceps muscle. Close to the artery is the Basilic vein, and on the other side the Cephalic vein. Each of these has a short vein running into it from the middle of the arm, which are the Median-basilic and Median-cephalic veins. These veins, especially the former, are punctured in venesection. The vein formed below, by the junction of these two, is the Median vein.

* * *

Works of Dr. Miller.

The productions of the late Dr. Edward Miller are about to be collected, as well those, which have been published in the New-York Medical Repository, as others, which have not yet



[illegible] Del. Sculp.

compressed. The whole with the [illegible] is published in New York, in one octavo volume.

Dr. Barton, late Professor of Botany and Materia Medica in the University of Pennsylvania, has been elected Professor of the Institutes and Practice of Physic and Clinical Medicine in the place of the late Dr. Rush. Dr. Chapman, lecturer on Midwifery, has been elected to the professorship of Materia Medica.

[illegible]

Mr. Brodie has communicated a second paper to the Royal Society on the Influence of the Brain on the generation of animal heat. "From the experiments which [illegible] were made," says Mr. B. "I am induced to hope that there can be no material error in this result. They appear to [illegible] the conclusion that [illegible] cools more rapidly than one [illegible] [illegible]."

The experiments detailed in this [illegible] of Mr. Brodie have been lately repeated by Dr. [illegible] [illegible] the expectation of obtaining results like those of Mr. B. Not succeeding in this, he was induced to [illegible] and vary the experiments; but still found them at variance with those of the ingenious English physiologist. Dr. [illegible] therefore thought proper to make his observations public in an inaugural dissertation, which he has since printed. Those who have attended to this inquiry will [illegible] [illegible] [illegible] of investigation been printed. The whole, with the author's life, will shortly be published in New-York, in one volume, octavo.

Dr. Barton, late Professor of Botany and Materia Medica in the University of Pennsylvania, has been elected Professor of the Institutes and Practice of Physic and Clinical Medicine in the place of the late Dr. Rush. Dr. Chapman, lecturer on Midwifery, &c. has been elected to the professorship of Materia Medica.

Animal Heat.

Mr. Brodie has communicated a second paper to the Royal Society on "the Influence of the Brain on the Generation of Animal Heat." "From the precautions with which these experiments were made," says Mr. B. "I am induced to hope that there can be no material error in their results. They appear to warrant the conclusion, that in an animal in which the brain has ceased to exercise its functions, although respiration continues to be performed, and the circulation of the blood is kept up to the natural standard, although the usual changes in the sensible qualities of the blood take place in the two capillary systems, and the same quantity of carbonic acid is formed as under ordinary circumstances; no heat is generated, and, in consequence of the cold air thrown into the lungs, the animal cools more rapidly than one which is actually dead."

The experiments detailed in the first paper of Mr. Brodie have been lately repeated by Dr. Hale, of this state, with the expectation of obtaining results like those stated by Mr. B. Not succeeding in this, he was induced to repeat and vary his experiments; but still found them at variance with those of the ingenious English physiologist. Dr. Hale, therefore, thought proper to make his observations public, in an inaugural dissertation, which he has now printed. Those who have attended to this inquiry, will thus have opportunity of investigating the causes of this diversity of result, and, no doubt, some persons will repeat the experiments, and throw more light on this interesting subject.

Fungus of the Testis.

A writer in one of the late numbers of the Edinburgh Medical and Surgical Journal describes two cases of disease of the testis, one of which apparently arose from external injury, the other from the effects of the venereal disease, in both of which an abscess was followed by an alarming fungus excrescence. Instead of extirpating the testis, escharotics were applied, which in one case produced a favourable change in the disease, while the other case was cured by a ligature, applied about the narrow neck of the fungus.

RECENT AMERICAN PUBLICATIONS.

Experiments on the Production of Animal Heat by Respiration. An Inaugural Dissertation, read and defended at the public examination before the Rev. President and the Medical Professors of Harvard University, August 20, 1813. By Enoch Hale, jun. M. D. Cummings and Hilliard, Boston.

A Treatise on the Membranes in General and Different Membranes in Particular. By Xavier Bichat, Physician of the Hotel Dieu, &c. with an Historical notice of the Life of the Author, by M. Husson. Translated by John G. Coffin, M. D. One volume, octavo. Cummings and Hilliard, Boston.

Dissertation on the Natural History and Medicinal Properties of Ergot, delivered at the annual meeting of the Massachusetts Medical Society, in June, 1813. By Dr. Oliver Prescott. Published by the Society. Boston.

An Inaugural Dissertation on the Medical Properties of Gold. By John C. Cheesman. New-York, 1812.

An Eulogium in Memory of the late Dr. Benjamin Rush, Professor of the Institutes and Practice of Medicine, and of

Clinical Practice in the University of Pennsylvania. Delivered and published at the request of the Graduates and Students of Medicine, by Wm. Staughton, D. D. Philadelphia.

An Essay on the Bilious Epidemic Fever, prevailing in the state of New-York. With Notes and Observations. By Christopher C. Yates. Second edition. Albany.

Review of "an Essay on the Bilious Fever, prevailing in the state of New-York. By Christopher C. Yates"; with additional Remarks, by a Physician. Albany.

PROPOSED,

By Thomas B. Wait and Co. An Anatomical Description of the Arteries of the Human Body. Accompanied with fifteen engravings, reduced from the Icones of Haller, and executed on wood. In one volume, octavo.

RECENT BRITISH PUBLICATIONS.

A Practical Synopis of Cutaneous Diseases, according to the arrangement of Dr. Willan, exhibiting a concise view of the Diagnostic Symptoms, and the Method of Treatment. By Thomas Bateman, M. D. &c. One volume, octavo. This work contains an Epitome of the whole of the eight orders of Cutaneous Diseases, announced by the late Dr. Willan, of which four only have been completed.

Medico-Chirurgical Transactions. Volume 3d.

Jameson's System of Mineralogy. Second edition. In three volumes, octavo.

Engravings from Specimens of Morbid Parts, presented in Mr. Charles Bell's Collection, and selected from the divisions inscribed Urethra, Vesica, Ren morbosa et læsa. Containing specimens of every disease which is attended with change of structure in these parts, and exhibiting the injuries from the Bougie, Catheter, Caustic, Trochar and Lithotomy knife, incautiously used. This work will be published in four fasciculi of ten plates each

Pathological Researches. In Medicine, by J. R. Farre, M. D. In Surgery, by Benjamin Travers. In royal octavo, illustrated by Engravings. These Researches are to appear in the form of periodical essays. Each number will contain three or more closely printed sheets of letter press, and two or three well executed plates.

An Essay on the Philosophy, Study, and Use of Natural History. By Charles Fothergill. One volume, octavo.

Elements of Agricultural Chemistry, in a Course of Lectures, delivered before the Board of Agriculture. Illustrated with plates. By Sir Humphry Davy, L. L. D. In one volume, quarto.

A Treatise on Dropsy. By T. Blackall. In one volume, octavo.

TO CORRESPONDENTS AND SUBSCRIBERS.

The third number of "Collections of Morbid Anatomy," and other valuable matter, prepared for this number, are necessarily omitted. Communications have been received from the Hon. Samuel L. Mitchell, Esq. "on an Organic Disease of the Heart"; from Dr. I. P. Batchelder, "on an Appearance of Acute Disease in the Heart," and one or two other articles on the same subject.

Subscribers are requested to transmit the amount of their subscriptions by every convenient opportunity. The editors are compelled to make this request on account of the expenses in which this publication has involved them. Not only are they not remunerated for their expenditures for new works imported from Europe, but hitherto, they have been called on to contribute largely for the printing of the book. A small increase in the subscription, will, it is presumed, exonerate them from this last burden, in future, provided the subscription money is punctually paid. The Editors will not receive any pecuniary emolument for their labours; but they have some reason to expect that they should be kept free from expense.

INDEX.

ANIMAL Heat, Dr. Hale's experiments on	411

Beck's Th. R. Annual Address	183
Bigelow Dr. case of morbid anatomy	266
Bichat on the membranes	203
Biographical notice of Dr. Rush	357
Blanchard Dr. on delphinium consolida	348
Boston, mortality in	316
Bowen Dr. W. C. on preternatural labour	279
Brain, protrusion of	280
Bryant Dr. on saphena vein	278
Bullard Dr. case of morbid anatomy	268

Carbonate of iron in diseases of the uterus	336
Cerebellum, Wenzel on, &c.	329
Channing Dr. on puerperal fever, &c.	232
Chemical researches	193
Cleveland, P. Esq. on electricity	26
Collections of morbid anatomy	153
Cooper A. Esq. on popliteal aneurism	35
Comet	203
Creagh Dr. on fractured cranium	42
Cutaneous absorption	30

Davy's Sir Humphry, elements	51
Delphinium consolida	348
Diarrhœa chronic	213
Diseases of the pancreas	20
Duncan on garden lettuce	78

Electricity, account of	26
Embalming dead bodies	90
Epidemic in New-York, &c.	244
Ergot, bad effects of	353

Experiments on cutaneous absorption 30
Eyes diseased 271

Fractured cranium 42

Gamage Dr. Wm. cases 254
——— on carbonate of iron 336
Garden Lettuce 78
Glazed earthen vessels, Dr. Meade on, 258
Gorham Dr. J. on chronic diarrhœa 213
Graduates medical, in Harvard University 408
Gravel, cure for 307

Hæmorrhagic disposition 221
Hay Dr. J. on hæmorrhagic disposition, &c. 221
Historic outline of progress of medicine 1
History of forest trees 70
Hooping cough 181
Heart inflamed 146, 154, 252, 266
Hotel Dieu 140
Hydrophobia, cases of 161

Jackson Dr. cases 253
——— on morbid anatomy 265
——— on tic douloureux 105
Jaw, loss of lower 281
Jones Dr. biographical sketch of 269

Labour, preternatural 279
Lloyd Dr. notice of 127
Lungs, foreign substance in 289
Lungs diseased 251, 265
Lymph effused 156

Medical lectures 408
Medical and philosophical lectures 204
Memoir on diseases of the heart 140
Meteoric stone 203
Michaux on forest trees 70

Medicine in Italy 76
Memoir on agents of the circulation 9
Miscellaneous cases in surgery 278
Massachusetts Medical Society 305
Meade W. Esq. on glazed vessels 258
Miscellaneous facts and observations 312
Minerals, description of 261
Moore, Dr. Francis, on phlegmasia dolens 225
Muriate of iron 347

National vaccine establishment 84

Opthalmia, treatment of 271
Orr Dr. H. case of retroverted uterus 131

Pelletan, on diseases of the heart 140
Phlegmasia dolens 225
Plates of the arteries 410
Popliteal aneurism 35
Protrusion of the brain 280
Puerperal fever with diarrhœa 232
Pleura inflamed 156, 252, 266, 268
Pyrophorus, Dr. Gorham on 310
Pericardium inflamed 152, 265, 268
Pharmacopia, new London 307
Prescott Dr. on ergot 305

Readings and observations, No. I. II. 32, 180
Report of vaccine establishment 84
Review of Davy's elements of chemistry 51
———— of Rigby on uterine hæmorrhage 51
———— of Michaux on forest trees of N. America 70
———— of Rumford's researches 282
———— of the New American Dispensatory 290
———— of practical observations by Wm. Adams 295
———— of Beck's annual address 183
———— of Sullivan J. L. remarks on the importance of inland navigation, &c. 354
———— of History of the Royal Society 364
———— of Inaugural dissertation on angina pectoris 374

Review of Chemical researches on the blood 193
——— of Eupatorium perfoliatum 377
——— of Medico-chirurgical transactions 379
——— of Practical observations on ectropium 396
Researches chemical, by W. T. Brande, Esq. 193
Rigby on uterine hæmorrhage 57
Rush Dr. notice of 351
Salisbury on banks for alpine plants 177
——— on vegetation of high mountains 169
Saphena vein, Dr. Bryant's operation 278
——— Dr. J. C. Warren's 279
Sketches relative to medicine in Italy 76
Sewall Dr. on cutaneous absorption 30
——— on diseases of pancreas 20
——— on spina bifida 281
Society for improving medical and chirurgical knowledge 89
Spina Bifida 281
Souffrier mountain, eruption of 95
Sullivan J. L. on inland navigation 354
Sibley Dr. on protrusion of the brain 280
Subcutaneous tubercle 308

Tic douloureux, Dr. Jackson on 105
Transactions of a society for improving medical and chirurgical knowledge 89
Tytler on hydrophobia 161

Uterus retroverted, Dr. Orr on 131
Uterus ulcerated 336
Uva ursi 180

Vaccine national establishment, report of 84
Vegetation of high mountains 169
Vena cava, obliteration of 93

Warren Dr. J. C. on diseased eyes 271
——— Collections of morbid anatomy 155
Waterhouse Dr. J. F. description of minerals 261
Wenzel on cerebellum, &c. 329
Wilson on obliteration of vena cava 95

Harvard University

Library of

The Medical School

and

The School of Public Health

VE RI TAS

The Gift of